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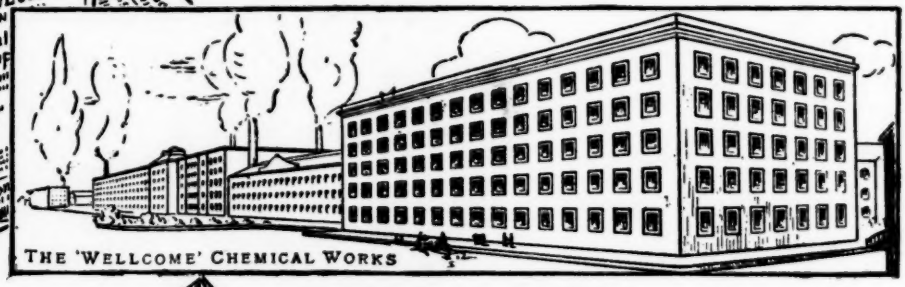

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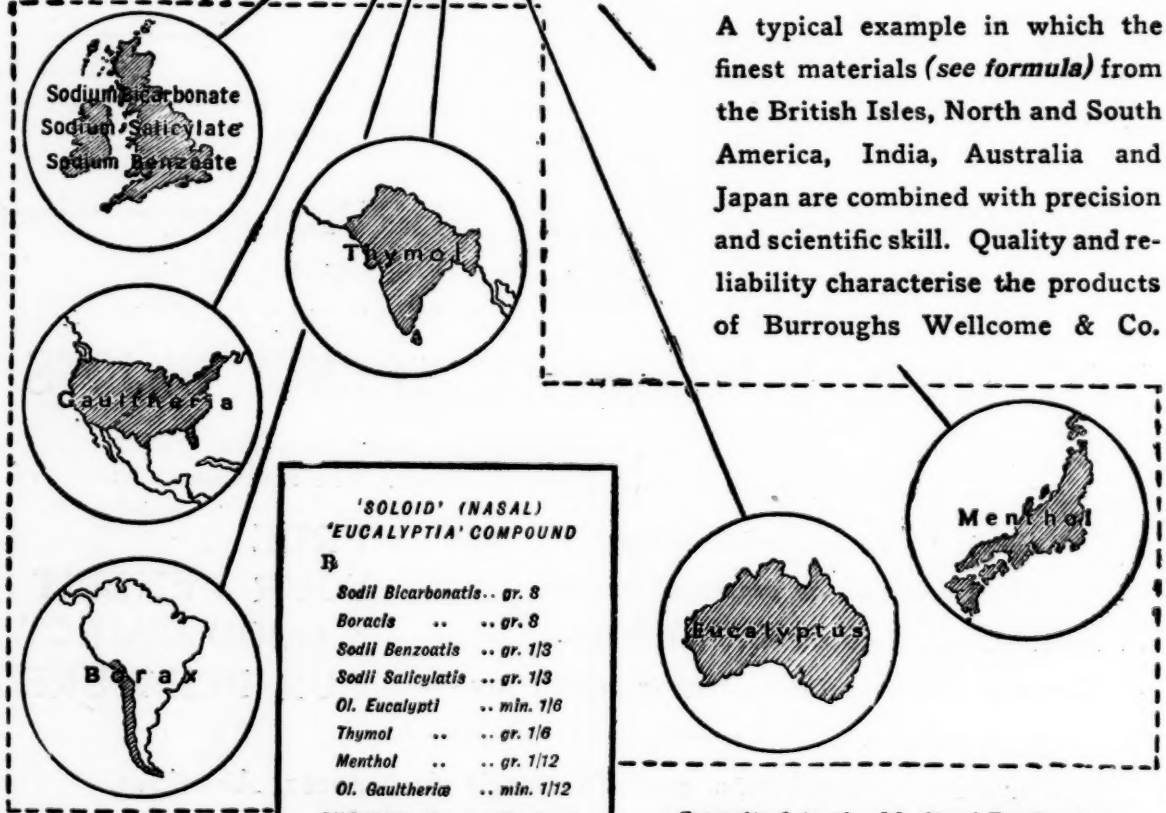

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A British Medical Association Lecture

ON

TUMOURS OF THE CEREBRUM.

DELIVERED BEFORE THE NOTTINGHAM DIVISION AND THE NOTTINGHAM MEDICO-CHIRURGICAL SOCIETY, DECEMBER 3RD, 1924,

BY

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THE SYMPTOMS OF TUMOURS OF THE CEREBRUM.

THE symptoms of cerebral tumours are so varied in form and so complex in origin that it is difficult to present a view of them which can be compressed into a short space of time. Their effect upon function is as subtle as is the function of the structure in which they grow, but our knowledge of cerebral structure has now advanced so far that we can at least lay down certain principles which may guide us in detecting the existence of an intracranial tumour, and in forming some idea as to its situation, and which may sometimes enable us to define its position with extreme accuracy.

General Symptoms.

From time immemorial it has been customary to describe three phenomena—headache, vomiting, and optic neuritis—as the classical symptoms of cerebral tumour. Undoubtedly these phenomena will appear in the great majority of cases if we wait long enough, but they are no more the primary symptoms of cerebral tumour than is acute intestinal obstruction the primary symptom of carcinoma of the colon. They are the symptoms of increased intracranial pressure due, not to the size of the tumour itself, but to a very definite series of events of which the tumour is the cause. The key to these events is to be found in the circulation of the cerebro-spinal fluid.

We now have convincing experimental evidence that the cerebro-spinal fluid is secreted by the choroid plexuses into the ventricular system of the brain. Most of it is produced in the lateral ventricles, from which it pours through the third ventricle, through the narrow aqueduct of Sylvius into the fourth ventricle, and out by the foramina of Luschka and Magendie into the subarachnoid space. It is absorbed into the venous sinuses, apparently by way of the Pacchionian bodies. Anything which obstructs this flow gives rise at once to an internal hydrocephalus and to a high degree of intracranial tension. I have recently had a case under my charge which illustrates this. A woman of 20 was referred to me by Dr. Riddoch with all the evidences of an internal hydrocephalus of long standing but becoming acute. Bilateral decompression failed to give relief, and she died. On examination we found a gross internal hydrocephalus due to the obstruction of the aqueduct by a minute nodule growing downwards from the posterior commissure and blocking its entrance. In dogs a millet seed experimentally placed in the same situation produces on identical effect.

Now any cerebral tumour if left to itself may ultimately produce the same result. If it lies below the tentorium it may produce it at a very early stage by distortion of the pons and mid-brain or by simple pressure. This rise of general intracranial pressure has a curious effect. It drives the cerebellum down into the foramen magnum and down the spinal canal, where it may reach even the third cervical lamina. A "cerebellar cone" is thus formed, beneath which the medulla is compressed as by a wedge, the cardiac and respiratory centres are seriously embarrassed, and the obstruction to the outflow of the cerebro-spinal fluid is further increased. But a tumour lying above the tentorium may in time produce an identical result, though only when it has grown to a very large size. By its gradual encroachment upon the intracranial space it may slowly force the cerebellum down into the spinal canal, and by obstructing the outlets for the cerebro-spinal fluid it may induce a secondary hydrocephalus. If it has developed in a frontal lobe or in some other region of comparative silence, it is quite possible that the first striking symptoms may be those of secondary hydrocephalus, arising in this way, and the diagnosis of a subtentorial tumour may then be almost irresistible.

The classical symptoms of cerebral tumour are, therefore, those of the late stage, really indicating cerebral obstruction, and it ought to be our aim to diagnose and treat the case before they arise. As this is, however, not always possible it will be well to consider their special characters. The headache is persistent, but with periods of increased severity. It is often worse on waking in the morning, and it is always increased by anything which increases the intracranial pressure, such as exertion or excitement. Vomiting may also take place on rising in the morning, and it has the peculiar character of occurring as a sudden violent act, without cause or warning, which has earned for it the title of "projectile." The fundi may show severe swelling of the discs before the patient is conscious of any visual defect, though a careful examination will usually show some narrowing of the fields for colour or for small white objects. Transient attacks of blindness may occur, but persistent deterioration of vision suggests the onset of atrophy, when complete recovery is impossible.

Among other general symptoms are a certain loss of initiative, mental lassitude and drowsiness, attacks of giddiness, slowing of the pulse, and possibly generalized epileptiform convulsions. A transient diplopia, occurring as it may at a very early stage, should be regarded as a symptom of the very first importance. These are all symptoms of high intracranial tension, and as such they may appear apart from cerebral tumours in such conditions as renal disease, severe anaemia, or lead poisoning. The latter are, however, readily excluded.

Regional Symptoms.

It is, however, to the local effects produced by a cerebral tumour that we must direct our attention if we are to diagnose its presence at an early stage and if we are to discover its precise situation. These local effects are not usually the results of destruction of brain tissue, for this only occurs in metastatic carcinoma and sarcoma; nor are they the direct result of pressure upon the nerve cells. They are the result of the interference with the circulation in that particular region of the brain which the growth of the tumour produces, and as such they may appear in two contrasting forms. At first a moderate degree of pressure interferes only with the veins and congestion of the region results, and, as has long been recognized, congestion reveals itself as irritation of which it is the pathological basis. Later a higher degree of pressure will interfere with the arteries, and the resulting anaemia finds its clinical expression in paralysis. As the effect gradually spreads we are likely to have a zone of congestion surrounding a centre of anaemia, and a clinical picture of an advancing irritation leaving paralysis in its wake. Moreover, round any tumour an acute oedema may suddenly arise, with a wide extension of its regional effects and a dangerous increase in the general intracranial pressure.

THE MOTOR AREA.

The most important part of the cerebral cortex from the surgical standpoint is that which lies immediately in front of the fissure of Rolando—the precentral or ascending frontal convolution. This great fissure, placed almost at the middle of the lateral surface of the hemisphere, might well be described as the watershed of the brain. Behind it the cortex is receptive, in front executive. Behind it lie the post-central convolution for the reception of cutaneous and body sensations, the occipital lobe for the reception of vision, the temporal lobe where sound enters, and the parietal lobe where all these sensations are analysed and gathered together into concrete impressions. In front of the fissure of Rolando lie the precentral convolution, where resides the whole final motor control, the post-frontal area, where memories of combined movements and skilled acts are stored, and the frontal lobe itself, where conduct and initiative reside and which appears to hold the key of all our powers of executive action.

The function of the precentral area appears to be to hold the muscles in just such a state of tone that they may be ready for instant action, and so to transmit demands for

[33511

such action that the muscles will respond in a co-ordinate manner. It contains a series of centres which essentially represent simple co-ordinate movements, such as flexion and extension, and these centres are arranged according to a definite plan. At the extreme upper end come the centres for the leg, those for the toes and ankle being actually on the mesial aspect of the hemisphere. The knee and hip are followed by the trunk, and below this come the shoulder, elbow, wrist, fingers, and thumb, in this order. The eyelids, mouth, tongue, and larynx follow; whilst, just in front of the hand area is a special centre devoted to the conjugate movements of eyes and head in rotating to the opposite side. It is usual to describe the fissure as having two genua separating the arm area from the leg area above and the face area below, but a more accurate statement would be that the precentral convolution presents three backward expansions, formed by the development of centres controlling the leg, arm, and face.

The first effect of a tumour pressing upon this region is the production of irritation of those centres around which it produces the most congestion. Periodically this irritation may give rise to a discharge of nervous energy, starting at these centres and spreading to the surrounding cortex. Such a discharge is the basis of an attack of Jacksonian epilepsy, of which it is characteristic that it always starts in the same locality and spreads to other parts of the body in a definite order corresponding precisely to the cortical plan. The fits may be preceded by twitching or tingling in this locality, and they commence with a stage of tonic spasm succeeded by a series of clonic jerks as the cortex becomes exhausted. This exhaustion is further shown in the fact that after a fit there is always very definite weakness in the limb or part of the body in which it started.

As an example of the mode of spread we may cite a case where the fits always started with twitching of the left thumb. After a few moments the tonic stage came on, a tonic spasm spreading successively to the fingers, wrist, and arm, and simultaneously to the left side of the face and tongue, whilst at the same time the head and eyes were forcibly turned to the left. Only occasionally did the fits spread to the leg, and they then became general with loss of consciousness.

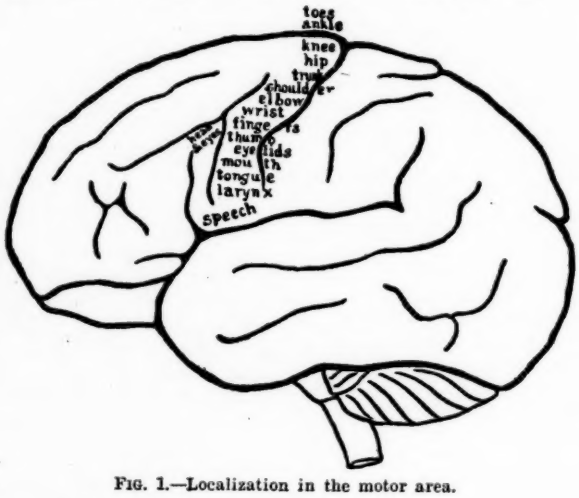

FIG. 1.—Localization in the motor area.

If, however, a tumour lies deeply beneath the cortex it may produce a paralysis without any of the signs of irritation. Such a paralysis is essentially a paralysis of movement and not of muscles, and it gives rises to postures of a definite type. Thus the arm will tend to take up a position of adduction, with flexed elbow, pronated forearm, and flexed wrist and fingers. The leg, in striking contrast, tends to be strongly extended at the hip, knee, and ankle, with adduction at the hip. In most cases the deep reflexes will be exaggerated and there will be an increase of tone in the muscles which may amount to rigidity.

A tumour pressing on this region may present other features of great interest. Thus, if it is at the upper end of the motor area it may so compress the opposite hemisphere as to produce a paralysis of both legs. If it is low down on the left side it may involve the area of Broca which lies just in front of the foot of the precentral convolution, and the patient may suffer from motor aphasia and lose the power of speech. Again, if it involves the face area, only the lower portion of the opposite side of the face will be paralysed, since the muscles of the forehead and eyelids, usually working together, are activated by impulses from both sides of the brain. An even more remarkable phenomenon is that in a cortical paralysis of the face, though voluntary movement is impossible, emotional movements, controlled by the thalamus, are not affected, and one may see a patient unable to move his face at will doing so in a perfectly normal manner in laughing at his own efforts. The importance of these phenomena in diagnosing between a lesion of the brain and of the facial nerve is obvious.

Behind the fissure of Rolando lies the post-central convolution, where are grouped centres for sensory reception roughly corresponding in arrangement with the motor centres we have just described. Injury to this area may produce in the corresponding region of the body a loss of postural sense, of localization, of touch, or of the perception of the degrees of heat and cold, and it is of diagnostic import that this loss is irregular in distribution and in the extent to which each element of sensation is affected. Irritation produces a sensation of tingling in the corresponding area, and as these sensory centres are in such close proximity to the motor centres, it follows that a tumour is likely to involve both and that tingling in a limb may be the definite precursor of a Jacksonian convulsion. The following case illustrates certain of these points:

A woman, aged 47, was referred to me by Dr. Riddoch with the history that for four years she had been liable to attacks of cramp in the left leg, occurring as a rule once a month. In an attack twitching behind the left knee was followed by slow forcible flexion at that joint and by plantar flexion of the ankle and toes. This was followed by a dozen violent twitches in the leg, lasting, perhaps, two minutes. The attacks were very painful and were followed by numbness, starting in the left knee, spreading up the leg, and sometimes involving the whole of the left half of the body. The numbness persisted for about an hour.

She was a healthy-looking woman with slight weakness of all movements in the left lower limb, increase of the deep reflexes, and an up-going toe.

The upper part of the right motor cortex was exposed and a large rounded tumour was seen springing from the upper part of the dura in this region. The tumour was enucleated and removed with as much of the dura at its base as possible.

I have said that the centres in the precentral area represent simple movements and that their action is the production of that muscular co-ordination which these movements require. In front of this area is another, the intermediate precentral area, where these simple movements are compounded into the complex actions required in the execution of skilled acts. Here resides the memory of those subconscious actions, which by long practice we have learnt to accomplish with unconscious skill. These are most highly developed on the left side, and here at its lowest point lies Broca's area, where are stored the movement memories required for speech, whilst a little higher are those required for writing. The pressure of a tumour on the left hemisphere may destroy both of these and the patient will be unable to speak or write, although he may be perfectly aware of the words he wishes to use, and may even be able to find them in a dictionary. But apart from injury to the special centres a tumour on either side may induce a subjective feeling of clumsiness, and a mechanic, for example, may find it impossible to carry out manipulations which for years he has executed with ease, although there may be no objective weakness in the arm at all.

Still further forwards we reach the frontal lobe itself, where apparently reside the centres for that more complex combination of actions which we call conduct. A tumour in this region may show its first signs in some alteration in the effect of environment upon action, often in a childish exuberance or an undue sense of well-being and of personal aggrandisement, such as is commonly seen in general paralysis of the insane from atrophy of the cortex in this region. More rarely the result may be fits of unreasoning passion, or an invincible and unreasoning depression. A fine tremor in the ipsolateral hand and a loss of

the superficial reflexes on the opposite side of the body may occur as early localizing signs. Certain of these points are brought out very clearly in the history of a case recently under my charge.

The patient was a man, aged 53, whose wife told us that for some months he had been peculiar and a little irresponsible. Ten weeks before I saw him he had spoken of some clumsiness in the right arm, and he appeared to have difficulty in finding the right words for expression. When he wanted a fork he asked for a biscuit, and he seemed more amused than worried at his mistakes. These symptoms became more marked, when suddenly, after about a month, he lost all power of speech, his right arm became rigid, and his face was drawn to the right. He recovered, but a second attack occurred a few days before I saw him. He was then desperately ill, unable to speak at all or to move his tongue. His right arm was held absolutely rigid, the shoulder adducted, the elbow flexed to a right angle, the forearm pronated. The right side of the face was paralysed, but he could move both legs freely. A diagnosis was made of a deep gliomatous cyst in the lower part of the left frontal lobe. The diagnosis was exactly verified at operation, when 40 c.cm. of fluid was withdrawn from the cyst.

The early history suggested a tumour of a frontal lobe, the attacks placed it on the left side, the rigidity without convulsions suggested that it lay deeply, the involvement of the speech and arm areas, and not that of the leg, placed it low down, and, finally, the sudden onset of acute symptoms, and still more the recovery from one attack, rendered a cystic glioma the most likely diagnosis. It is of interest that two days after decompression and aspiration he talked with freedom and had full control of his right arm.

This case illustrates a point of great moment in the diagnosis of cerebral tumours—the importance of the evolution of the case. It is only by a close study of the gradual development of symptoms, rather than by an elaborate investigation at any one time, that we can hope to arrive at an exact diagnosis. The gradual advance of the tumour may be accompanied by the development of a train of symptoms, sometimes quite transient, which may establish the diagnosis beyond all doubt, though at any one time the symptom complex may be very difficult to unravel. In no case is this more true than in those tumours which, perhaps starting in the more silent regions of the brain, come into contact with the motor paths.

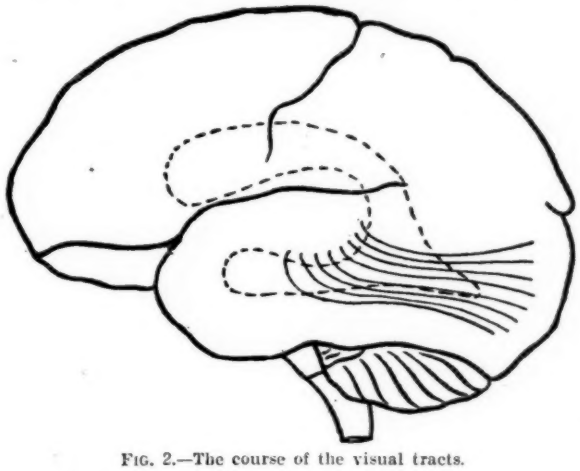

FIG. 2.—The course of the visual tracts.

THE VISUAL TRACTS.

The tumours of which I have so far spoken have as their chief characteristic some interference with motion. Another group, not perhaps so common but even more fascinating as problems for diagnosis, interferes with vision. Visual impressions starting in the retina pass through the whole length of the brain to the occipital lobe behind. The fibres of the optic nerves decussate in the optic chiasma in such a way that the visual impressions from the visual fields on each side of a median plane are transmitted entirely to the opposite side. Through the optic tracts impulses from the contralateral fields are carried back to the external geniculate body and the pulvinar of the thalamus. From the former run tracts connecting it with the mid-brain and with the centres which control the movements of the eyes. From the latter spread out the optic radiations, looping round the descending horn of the lateral ventricle to reach their destination in the cortex of the occipital lobe. It is to this final portion of the optic path that I would for a moment direct your attention.

The optic radiations are so arranged that the upper fibres receive impulses from the upper portions of the retinae, the lower from the lower. This order they maintain right up to the point when they terminate in the cortex above and below the calcarine fissure on the mesial aspect of the occipital lobe. In relation to tumours of the occipital lobe itself this distinction is not of importance, for as a rule the whole visual area is involved, with resulting disturbances of vision in the contralateral visual field. These disturbances may be of two kinds—irritative or paralytic. The former are more likely to be produced by cortical tumours, and appear as flashes of light, often coloured and suggesting fireworks. Probably the fortification lines of migraine are due to vascular disturbance in this region. Deep tumours, on the other hand, produce a gradual contraction of the visual field on the opposite side, best shown by testing with small objects, white or coloured. The superficial tumours again tend to spread forwards over the cortex and to involve the lower sensorimotor areas, producing numbness in the opposite face or hand. The deep tumours tend to involve the posterior part of the internal capsule, producing sensory changes in the opposite half of the body and paresis in the opposite leg.

But to the optic radiations themselves we owe a syndrome as beautiful as any in cerebral pathology, and in the hands of Cushing they have supplied the key to what was one of the most obscure regions of the brain. These radiations as they leave the optic thalamus wind forwards, outwards, and finally backwards round the descending horn of the lateral ventricle, occupying as they do so the posterior part of the temporal lobe. Their arrangement in upper and lower groups connected with the upper and lower portions of the retinae has already been noted. A tumour, then, in the lower part of the right temporal lobe will involve those fibres which carry impulses from the opposite upper visual field, and the left upper quadrant will be blind, and we have the condition known as a left upper quadrantic homonymous hemianopia. The discovery of these quadrantic hemianopias has revolutionized localization in the temporal lobes.

It is typical of quadrantic hemianopias that the visual defect is incomplete, and it is owing to this fact that they have so long escaped attention. They can only be discovered by the most accurate and painstaking perimetry, and only at an early stage of the development of the tumour. A rough perimetry will miss them entirely, and in a late stage they will be merged in a complete hemianopia, but if found they are almost conclusive evidence of a tumour in the temporal lobe.

But the temporal lobe yields another symptom as bizarre as any in cerebral symptomatology. When a tumour involves the uncus the patient is liable to peculiar attacks lasting for a few seconds and perhaps recurring many times in the day. In these he is overpowered by a dreamy sensation, the world seems remote, and voices sound far away. In this state he may have curious hallucinations of smell, taste, hearing, or vision. The first two are perhaps the most common, and though sometimes pleasant are usually so repulsive as to produce an expression of disgust on the face. Those of vision are very curious and form definite pictures, such as a row of black cats or a little figure, in contrast to the visual disturbances seen in tumours of the occipital lobe. These pictures are the same on every occasion, and they are always in the blind portion of the visual field. The combination of a quadrantic hemianopia with uncinate attacks thus forms a very complete and exact syndrome, distinguishing sharply when it occurs tumours of the temporal lobe.

THE POSSIBILITY OF SURGICAL RELIEF.

We see, then, that those tumours of the cerebrum which are accessible to surgery give rise in many instances to symptoms characteristic of their locality, though when the case is actually seen these are only too often masked by those of general intracranial pressure. It will be worth while to consider for a moment which of these tumours may be amenable to surgical treatment.

The commonest tumour of the cerebrum is a glioma and its removal is impossible. The relief which may be obtained by decompression is, however, sometimes very considerable, and of this the following case furnishes an example.

A woman, aged 38, was sent to me with a history of severe frontal headaches extending over six years. A year before I saw her she suddenly fell down unconscious and had a series of violent convulsive attacks starting in the left arm. From this she recovered completely. It had for some time been noticed that she was somewhat unstable mentally, acting with excitable levity. She occasionally had a tremor in the right arm and leg, and vision was failing.

She was an excitable woman in abnormally high spirits. She had severe papilloedema, most marked on the right, but no changes in motion, sensation, or reflexes were discovered. A deep glioma of the right frontal region was diagnosed, and a large decompression in this region was performed, the brain being under very high pressure. She recovered completely, her headaches disappeared, and she regained her normal health and vision; even the fundi became normal. For eighteen months she remained in excellent health, though a left hemiparesis and an enormous hernia very gradually developed. She then quite rapidly became comatose and died.

Although a glioma cannot be removed it may degenerate in the centre and become cystic, and in such a case it is sometimes possible by aspiration of the cyst to give considerable relief to the patient. If the cyst is at all superficial and can be treated with formalin the relief may extend over a considerable period; in some of these cases the introduction of radium has given good results. In such cases a decompression not only relieves the pressure but enables the cyst to be aspirated with facility. The following is an example:

A man, aged 44, was referred to me by Dr. Riddoch with the story that six months previously he had had a sudden attack of giddiness, followed by pains in the back of the neck and difficulty in speaking, which lasted for a few minutes. Since then he had had a few similar attacks, and six weeks before I saw him, after one of these, the right arm began to shake and the right side of the face to twitch. When this had passed off the arm remained weak and the difficulty in speech persisted. He was an intelligent man with marked apraxia and aphasia. There was slight weakness of the right side of the face and tongue, and spastic paresis of the right arm and leg with increase in the deep reflexes. He rapidly became worse, complete right hemiplegia developed, he was unable to move his tongue, and had increasing difficulty in swallowing. He became very drowsy and the respirations stertorous. Left temporal decompression was performed and a large cyst discovered lying deeply in the left frontal lobe, from which 44 c.cm. of turbid fluid was withdrawn. He made a remarkable recovery. His speech commenced to return in four days and he regained full power in his limbs.

The only removable tumours which are at all common in the region of the cerebral hemispheres are the endotheliomata. These arise from the inner surface of the dura, probably from the lacunae of the anterior longitudinal sinus. Sometimes they are firm, rounded, fibrous tumours, often, however, with central degeneration; sometimes they are soft and diffluent. They may have a pedicle or they may be sessile on the inner surface of the dura. The bone over them is very vascular, and they have a curious power of stimulating its growth, so that external bony tumours may appear on the skull. They may, indeed, invade the bone, with which they thus become indissolubly connected, but in no circumstances do they invade the brain; they press into its substance, and their removal may at first leave a large cavity, but in a few moments the brain returns to its normal position and the cavity is entirely obliterated.

Theoretically these tumours should be completely removable and should never recur, but it is not always possible to obtain this result. In the soft type the tumour may break up so far that there can be no certainty of its complete removal, and in the sessile variety its connexions with the superior longitudinal sinus may be so complete that only a resection of the sinus, with the grave risks which that involves, could ensure total ablation. One case of the latter condition has already been mentioned, and of the former the following is an example:

In October, 1921, I operated upon a woman, aged 25, who for eighteen months had suffered from morning headaches of increasing severity, and latterly accompanied by vomiting. She had had attacks of tingling and numbness in the fingers of the left hand, spreading to the shoulders and to the left side of the tongue, and loss of sense of position in the fingers of the left hand.

The right Rolandic area was exposed by an osteoplastic flap, and a large, soft, purplish tumour was found arising from the inner surface of the dura over the middle of the right Rolandic area. On opening the dura a mass of diffluent material about the size of a tennis ball oozed out, the cavity in the brain being almost instantly obliterated. The dura was removed as widely as was practicable and the osteoplastic flap was closed. She made an uninterrupted and complete recovery.

In April, 1924, after three and a half years of perfect health, she suddenly had a succession of violent fits, starting with tingling in the left fingers, but becoming general, and accompanied by loss of consciousness. The papilloedema, which had entirely disappeared, was found to have returned. Exploration showed masses of soft growth protruding through the old trephine holes in the bone, which was itself widely invaded by soft vascular growth. The bone was widely resected and the growth removed as completely as was possible, although it extended up to the middle line. She again recovered completely, and so far has remained in perfect health. It is possible that the use of x rays over the large opening left in the skull may enable us to prevent further recurrence.

It will thus be seen that although only in a very limited number of cases can we expect to effect a complete cure by surgical interference, there are many in which we can give considerable relief. The most important factors in success are early diagnosis and precise localization; both should be effected before general symptoms have developed and before an increased intracranial pressure has added to the difficulties and dangers of an operation. There is no field of surgery in which so much depends upon the close co-operation of the physician and the surgeon, upon the enterprise of the former and the restraint of the latter.

An Address
ON
MASSIVE PULMONARY COLLAPSE.*

BY

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IT might be supposed that the subject of pulmonary collapse is largely of academic interest, but the clinical manifestations are of great importance, both to the physician and to the surgeon, and a prompt recognition of the physical signs and the symptoms, and where possible their prevention or their rectification, is therefore of great value.

PHYSIOLOGICAL INTRODUCTION.

Before proceeding to discuss the causation of pulmonary collapse a brief recapitulation of the essential anatomical and physiological facts of respiration may be helpful. It is customary to regard the lung as a single organ, expanding as a whole, and to disregard a possible significance of its division into lobes. Keith[1] has, however, shown that the great fissure is of fundamental importance, in that it separates the lung into areas, the method of expansion of which is distinct, the upper lobe being expanded by the mechanism of the upper ribs, and the lower lobe by a compound mechanism formed by the diaphragm and lower ribs. Further, the extensibility of the lung is not uniform in degree, but varies with the three anatomical zones into which it is divided. These are (*a*) *the root*, practically non-extensible; (*b*) *the intermediate zone*, containing vascular and bronchial ramifications with some extensible tissue between; and (*c*) *the outer zone*, consisting entirely of expansile tissue. Expansion takes place by the moving apart of the rays of the inexpansile structures, and the filling out of the intermediate and outer expansile areas, a mechanism which Keith has likened to the opening of a Japanese fan.

It is impossible here to enter into any detail of the muscular mechanism brought into play in respiration, and a somewhat dogmatic outline must suffice.

The upper part of the thoracic cavity is conical in shape, the lid being formed by the first ribs and the manubrium sterni. This lid is held immobile by the scaleni, and acts as the fixed point from which the upward movement of the ribs originates. In the main the expansion of the upper lobe is brought about by the lifting of the five upper ribs, with an increase in the antero-posterior thoracic diameter, owing to the axis of rotation of these ribs being set almost at right angles to a vertical section. Each successive rib

* Delivered before the Plymouth Medical Society.

moves through a rather wider space than the one above; hence the undulating expansion described by Hoover.[2] The lifting of the ribs is the result of contraction of the external intercostals. The contraction of the diaphragm has a very slight expansile effect on the upper lobe, for the crura, being attached to the root of the lung through the pericardium, will on contraction displace the pulmonary hilus downwards, and so help the ventilation of the apex.

The lower part of the thorax from the fifth rib downwards is cylindrical in form, and for its expansion depends in part on the intercostals and in part on the diaphragm. The external intercostals carry on the same lifting process as already described, but with the alteration of the axis of rotation of the ribs, the angle with the vertical mid-plane becoming progressively more acute, the resultant movement is rather in a lateral than in an antero-posterior direction.

The contraction of the diaphragm is the other great factor in the ventilation of the lower lobes. Attached behind to the lumbar vertebrae, laterally to the lower edges of the six lower ribs, and in front to the ensiform cartilage, the fibres converge to their insertion in the central tendon. At rest two domes are formed below the bases of the lungs, the outer wall of each being in contact with the parietal walls. Contraction shortens the fibres, flattens the domes, and by so increasing the vertical diameter of the thorax permits the lungs to descend and expand. The diaphragm and the intercostals are in opposition in their pull on the lower ribs, for the former tends to close the subcostal angle and the latter to open it. The flatter the dome of the diaphragm the more direct is the pull it can exert, and the more force it will bring into play on the costal margin (Hoover[2]). This point is of considerable clinical importance. Depression of a diaphragmatic dome, either by pleural effusion or cardiac enlargement, will increase its mechanical efficacy, and this is shown by a reduction in the subcostal angle, instead of its increase as in normal respiration, in which the outward pull of the intercostals can overcome the inward pull of the diaphragm (Macleod[3]). A very critical study by Sir Charlton Briscoe,[4] in his Arris and Gale Lectures, of the action of the diaphragm will repay close study by those interested in this subject. He differentiates the contraction of the diaphragm into two parts—the crural, dependent solely on the phrenic nerves for stimuli, and the costal, which obtains part of its nerve supply from the intercostal nerves. He has further classified patients into three types, according to their manner of breathing. The A type depends almost entirely on the crural contractions for diaphragmatic respiration. In the C type, at the other extreme, the costal contractions are the more prominent. The adoption of the supine position will materially affect diaphragmatic respiration, and this has, as will be seen later, a profound influence on the production of collapse.

THE CAUSATION OF PULMONARY COLLAPSE.

It is to William Pasteur that the credit is due for first noting and describing the phenomena which he described as "post-operative massive collapse of the lung," in 1908.[5] Several other communications by him followed, and he gave a general review of the subject in 1911.[6] It was not, however, until the war led to a concentrated study of chest wounds that collapse came to be recognized as a frequent occurrence, for explanation had to be found for the many cases in which signs were present which could not be attributed to any of the generally accepted pathological conditions. In all the published writings on gunshot wounds of the chest references will be found to pulmonary collapse (Herringham,[7] Soltau and Alexander,[8] Gask and Wilkinson,[9] J. R. Bradford,[10] Soltau,[11] Bradford[12]).

It is obvious that the collapse of a lung, in whole or in part, may be brought about by various causes. A complete obstruction of the main bronchus, as occasionally occurs from inhaling a foreign body, must inevitably lead to such a condition, and this fact led to the theory that collapse was caused by the accumulation of bronchial secretion to such an extent as to plug the bronchi (Elliot and Dingley[17]). Such a condition, however, has not been commonly found in *post-mortem* examinations. Moreover, in many cases a lung has been profoundly collapsed during life without the patient having any expectoration or other sign of increased bronchial secretion. Cases of purulent bronchitis with great excess of secretion do not appear ever to develop a massive collapse, though small collapsed areas may be seen *post mortem*. The collection of secretion cannot therefore be accepted as a complete explanation, though in some cases it may play a small contributory part.

Pasteur himself regarded the condition as being due to diaphragmatic paralysis, and there is increasing evidence that inhibition of the activity of that muscle forms an essential part of the process of collapse. *X*-ray examination of these cases invariably shows that the diaphragm on the affected side is raised, often to a higher level than that reached in the extreme expiratory position. It has even been seen to move in the reverse direction, rising with inspiration owing to the increase of intra-abdominal pressure from the descent of the unaffected lobe. Moreover, frequent opportunity was afforded during the war of observing the diaphragm through a hole in the chest wall—from wounds or on the operating table—and the flaccid, atonic condition of the muscle was obvious.

It is not so easy to determine why the diaphragm is paralysed, and this question is still under debate. The present writer, with Dr. Alexander,[8] advanced the view that it was a reflex paralysis, the afferent impulses being conveyed to the respiratory centre from the focus of irritation by means of the vagus, and the efferent by the phrenics. They pointed out that collapse was not of necessity associated with injury to the lung or to the thoracic wall, but might occur, as Pasteur had originally noted, after abdominal injuries quite remote from the diaphragmatic region. A penetrating wound of the pelvis, for instance, exhibited a very typical picture of pulmonary collapse. In military experience certainly by far the greater number of cases were directly associated with injuries, not necessarily penetrating, of the chest wall or lung. In civil experience the majority of cases are a direct sequel to abdominal operations, particularly those on the upper abdomen. In the writer's experience operations involving the liver and bile passages are especially likely to be followed by collapse of the lung.

Briscoe[4] advances an alternative view as to the origin of the paralysis, regarding it is merely an exaggeration of the respiratory changes which take place when the supine position is adopted. In this position the costal type of diaphragmatic respiration is largely suspended, particularly in those patients of type A whose respiration is mainly crural in origin. Subsequent irritation of the crura or of their pleural covering will lead to inhibition of the crural respiration, and hence to paralysis and complete deflation. Further observation is needed to determine the relative importance of these two views. Whatever the actual mechanism which inhibits the diaphragm, the result is a cessation of ventilation of the lung, with speedy absorption of the residual alveolar air, and so complete collapse. Falconer[13] supports Briscoe's view and records the comparatively frequent occurrence of massive collapse in prolonged malarial cases. He was inclined to regard the condition as being caused by perisplenitis. Watson and Meighan[15] have recorded cases of diaphragmatic paralysis which they attributed to a functional disturbance of the phrenic centre. It would be interesting to know whether any observations have been made in the cases, recently described, of very rapid breathing as a sequel to encephalitis lethargica, to note the condition of the diaphragm.

Whilst the study of pulmonary collapse from injury was being studied a further very interesting fact came to light—namely, that the uninjured lung may frequently share in the condition, a phenomenon to which the term "contralateral collapse" was applied. This condition has been seen both with penetrating and non-penetrating wounds of the chest. The radiograms exhibited, taken by Captain Donaldson, show an extreme degree of massive collapse of the right lung, resulting from a severe blow to the left thoracic parietal wall. The writer recently saw a similar case in which the shaft of a cart had inflicted a heavy blow on the left side, and the right base was collapsed. Curl[14] has described in some detail the contra-

lateral signs associated with chest wounds. These cases of contralateral collapse are difficult to explain without assuming a nervous reflex.

Finally, the well known experience of being "winded" by a sudden blow may be due to temporary paralysis of the diaphragm. Here the immediate onset must preclude any inflammatory cause. The happy conjunction of an *x*-ray plant and a "winded" patient may settle the point.

Varieties of Collapse.

The most common condition to find is massive collapse involving the whole of the lower lobe. More rarely the whole of the lung may be involved, and very occasionally the upper lobe alone is affected. In cases where a part only of the lower lobe is collapsed a wedge-shaped area with the base downwards will be found, giving the characteristic signs. Collapse may be homolateral, or, in cases of injury, contralateral. In civil practice collapse following surgical operations most commonly affects one base only, but it may be bilateral, each side becoming involved successively or simultaneously.

Physical Signs.

These are not unequivocal, and some practice is required to make certain of the diagnosis, for in many respects there is a close resemblance to the physical signs of pneumonia. Observation is of the greatest help, for the *retracted* immobile chest wall affords a striking contrast to that of pneumonia, in which with immobility the appearance of fullness is so frequently noticeable. The difference in the ribs in the two cases may be compared to the appearance of a concertina when closed and when extended.

Palpation is the critical diagnostic test, for by that means the position of the apex beat may be determined. The most definite and constant sign of collapse is displacement of the apex, and this always takes place towards the collapsed area. The displacement may be extreme, the apex being found well over towards the axilla, and frequently lying at a higher level than the normal.

This alteration may take place with great rapidity, the apex having been found to have moved two inches in the course of a few hours. On percussing the chest a marked alteration in the note will be elicited. With complete collapse there is absolute dullness, so definite as to suggest the presence of fluid. The position of the apex beat, however, at once eliminates the possibility of effusion. On the left side the increase upwards of the gastric resonance will indicate the high level of the diaphragm, and so suggest paralysis of that muscle. The auscultatory sounds may vary very greatly, being modified both by the degree of collapse present and with the phases through which the condition passes.

In a typical case followed from its commencement, at first breath sounds are practically absent, or only the faintest respiratory "whisper" will be heard. This absence of breath sounds is accompanied by absence of vocal resonance. We are listening to a "dead" lung through which no bronchial air is passing. The sign-complex is therefore a retracted immobile chest with raised diaphragm, dull on percussion, and exhibiting neither breath sounds nor vocal resonance, and with the heart displaced towards the dullness. In the second stage there is a dramatic alteration. The percussion note is still dull, but the breath sounds are tubular or amphoric, and vocal resonance is greatly increased. Ventilation is commencing and the bronchial respiration becomes audible.

The clinical picture resembles a pneumonic consolidation, except for the shape of the chest and the position of the apex. In the final stage dullness becomes less pronounced, the tubular breath sounds are less definite, and frequently moist adventitious sounds are present. Air is commencing to enter the alveoli and a certain excess of secretion may be present. With the expansion of the lung the heart returns gradually to its normal position. This phase is frequently confused with bronchitis, and probably not a few of the cases of so-called post-anaesthetic bronchitis are really in the final stage of massive collapse. Pyrexia is not uncommon, but does not reach a high degree. It is to be expected that a bronchial infection will frequently complicate collapse, and even a true pneumonic consolidation may occur in the collapsed lung.

Symptoms.

Massive collapse with unmistakable physical signs may produce very few symptoms. A certain degree of dyspnoea, more marked on exertion, is usually present, and is, of course, much more pronounced if both lungs are involved. Cyanosis is not a marked feature, for the unaffected lung area is ample to secure sufficient oxygenation whilst the patient is at rest. The writer has, however, not infrequently noticed that the colour of the face is a brick red, and has on more than one occasion ventured a diagnosis of collapse based on this appearance, and has found it confirmed on further examination. The absence of cyanosis may be explained by Haldane's[16] reasoning, that where a lung, by consolidation or collapse, has ceased to have any pulmonary circulation, only the bronchial persisting, the whole of the venous blood is oxygenated in the unaffected areas. Where, however, the pulmonary circulation is partially open, venous blood will circulate through lung area which is not capable of oxygenating it, and therefore a mixed stream of oxygenated and non-oxygenated blood will reach the systemic circulation, causing cyanosis.

Cough of a weak, irritating type is frequently present. It is not usually productive—in part owing to lack of pressure from behind, as the diaphragm is out of action, and in part also because secretion is not necessarily increased.

Diagnosis.

The diagnostic signs have been detailed already, and it is only necessary to refer very briefly to the main points. The appearance of the chest and the position of the apex beat are the two cardinal signs to which attention should be directed. If these be remembered, confusion with either pleural effusion, pneumonia, or bronchitis will not arise. In military practice the presence of a coexisting haemothorax introduced disturbing signs, which will practically never arise in civil practice. It should not be forgotten, however, that a pneumonic consolidation is not unknown in a collapsed lung, more particularly as reinflation is commencing. So, also, an infective bronchitis may be associated with collapse. It is hardly necessary to refer to the great assistance in diagnosis which *x*-ray examination gives, and in cases of doubt this assistance should, where possible, be sought.

Treatment.

It is obvious that very little can be done in the way of active treatment. In cases in which dyspnoea is a symptom oxygen is essential. This should be given practically continuously in measured quantities, by means of a Haldane oxygen apparatus. In cases requiring prolonged or exhausting dressings oxygen should be given as a routine during the dressings. The importance of Sir Charlton Briscoe's investigation lies in the fact that the supine position favours collapse. To the surgeon the value of placing his patient as soon as possible in the semi-upright position will appeal. It is hardly too much to say that all operations on the upper abdomen should be nursed in this position, as soon as post-operative shock has passed off. Nursing homes still are frequently ill provided with comfortable and easy means of raising patients into this position and maintaining them there. The Fowler frame, introduced during the war into casualty clearing stations, was an admirable and simple mechanical device for attaining this end.

The object of this communication is to call attention to a condition which occurs far more frequently than is supposed, and which has not received much attention in the general medical press.

Summary.

1. Massive pulmonary collapse is a definite clinical condition.
2. It is caused by inhibition of the diaphragmatic action, whether from reflex or inflammatory causes.
3. Its onset is favoured by the supine position.

4. It follows direct trauma of the chest wall or lung, and surgical operations on the abdomen, even remote from the diaphragm.

5. It gives definite physical signs, which may simulate pneumonia or pleural effusion.

6. The differential diagnosis depends on determining the position of the apex beat and the diaphragm.

7. It may, in cases of injury, affect the lung on the side remote from the trauma.

8. Its occurrence, whilst of itself not necessarily of grave import, yet places another burden on a patient already struggling with injury or disease.

9. Treatment should be preventive.

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ON THE POSSIBILITY OF RESTORING MOVEMENT TO A PARALYSED VOCAL CORD BY NERVE ANASTOMOSIS.*

(An Experimental Inquiry.)

BY

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THE following series of experiments were carried out by Sir Charles Ballance with the collaboration of the writer. The experiments were performed at the National Institute for Medical Research, Hampstead, and were made possible by the facilities granted by the Medical Research Council. Although final conclusions have not been reached, certain definite results have been obtained, and it is at the suggestion of Sir Charles Ballance that this description of the research has been written.

Experiments on the effects of an anastomosis of the recurrent laryngeal with another nerve by previous observers do not appear to have given very definite results, probably owing to the difficulty of accurate observations on the movements of the vocal cords in animals without killing them at the end of the experiment. This is now easily overcome by using a direct vision laryngoscope. The larynx of a monkey and the movements of the vocal cords can be not only seen but carefully studied through the spatula of Chevalier Jackson, employing the model designed for the child. Direct observation has therefore taken the place of inferences drawn from the presence or absence of such symptoms as stridor, hoarseness, or roaring in animals. It has even been possible, although certain technical difficulties had first to be overcome, to record the movements of the vocal cords on a cinematograph film.

The results of the experiments may be divided into three groups.

I.—Anastomosis with the Vagus.

The first nerve employed was the vagus. Chevalier Jackson, in his book on endoscopy, suggests that an anastomosis between the vagus and the recurrent laryngeal might cure paralysis of a vocal cord. Since the recurrent laryngeal nerve passes down the neck in the trunk of the vagus, such an anastomosis would be most likely to succeed if the cut end of the recurrent laryngeal were united to that part of the vagus which contains the fibres of the recurrent laryngeal, before they have left the main trunk. There is, however, no means of distinguishing the fibres of the recurrent laryngeal from the rest of those which form the trunk of the vagus, so that there would be only a small chance of effecting such a reunion.

Actually the end of the recurrent laryngeal was implanted into the side of the vagus in two goats, a rhesus monkey, and a baboon; but the last animal died of pneumonia three weeks later, which suggests that the operation may not be devoid of risk. There were therefore three effective experiments in this group.

In a large male goat the vagus was nearly half divided and the cut recurrent laryngeal sutured to the proximal lip of the incision. At the end of ten months no movement of the vocal cord had been observed, though it appeared to have become straight and tense. This effect, however, may have been produced by contracture of the intrinsic muscles of the larynx rather than by the return of the muscular tone. On exposing the anastomosis the recurrent laryngeal was found kinked and involved in scar tissue, nor was any movement of the cord produced by stimulation of the trunk of the vagus, the anastomosis, or the recurrent laryngeal itself. The experiment repeated on a young goat gave negative results at the end of six months.

In the rhesus monkey the same operation was done and the corresponding vocal cord was seen to be paralysed. At the end of four months no movement had returned though the cord was more tense. The anastomosis was exposed at the end of seven months, and abduction of the paralysed cord was obtained by stimulation (*a*) of the trunk of the vagus, (*b*) the site of the anastomosis, and (*c*) the recurrent laryngeal nerve.

The excursions of the cord were not quite so wide as on the sound side.

It appeared, therefore, that the muscles were innervated from the vagus, although no spontaneous movement occurred, and Professor Starling suggested that if the animal were partially asphyxiated the forced inspiration so produced might be so powerful that the muscles would receive a strong enough nervous impulse to cause a contraction. This experiment was tried at the end of nine months, and the cord was seen to abduct several times, though not so widely as on the opposite side. The same effect was seen at the end of twelve months, but was less after fifteen months, and has disappeared after seventeen months, and still has not reappeared.

It may be concluded from these experiments that, although a nervous connexion may be re-established by a recurrent laryngeal vagus anastomosis, it is useless to expect return of spontaneous movement in the corresponding vocal cord.

II.—Anastomosis with the Descendens Noni.

In another series of experiments the recurrent laryngeal nerve was anastomosed end-to-end with the descendens noni. This operation was done on four rhesus monkeys.

In the first experiment the recurrent laryngeal was anastomosed end-to-end with the descendens noni and the distal end of the descendens noni implanted into the side of the hypoglossal. Before the suture was completed it was observed that stimulation of the distal end of the recurrent laryngeal caused abduction of the cord. This animal died from bites received from another monkey six weeks after the operation, so that no result was obtained.

In the second experiment the same operation was done on the right side, except that the distal end of the descendens noni being very small was left free. At the end of two months there appeared to be increased tension in the cord but no spontaneous movement. Stimulation of (*a*) the hypoglossal proximal to the origin of the descendens noni, (*b*) the descendens noni, (*c*) the anastomosis, all caused abduction of the cord, showing that a nervous impulse could pass through the anastomosis. At the end of four months there was still no spontaneous movement in the cord, but on partial asphyxiation abduction of both cords followed but soon ceased. At the end of five months, and again at the end of seven months, there was still no movement of the cord on tranquil respiration, but wide excursions of both cords followed partial asphyxiation and lasted for two minutes. The movements of the right cord gradually ceased as the effects of the asphyxiation passed away. The animal became ill at the end of nine months and was killed, but it was noted that still there were no spontaneous movements of the right cord.

In the third experiment the animal had to be killed at the end of seven months; the results were exactly the same as in the second experiment.

In the fourth experiment the descendens noni was anastomosed end-to-end with the recurrent laryngeal. The distal end of the descendens was implanted into the side of the phrenic. No spontaneous movement returned to the vocal cord, but when the animal was killed at the end of three months stimulation of (*a*) the hypoglossal proximal to origin of the descendens noni, (*b*) the descendens noni, and (*c*) the anastomosis, all caused abduction of the vocal cord.

The results of these experiments with the descendens noni show that, as in an anastomosis with the vagus, the muscles controlling the movements of the vocal cord become innervated, but no movement occurs in the cord because the appropriate impulse does not pass along this route.

* An illustrated article by Sir Charles Ballance on experiments in which the facial and recurrent laryngeal nerves were anastomosed with other nerves was published in the JOURNAL (1924, vol. ii, p. 349).

It is probable that when the animal swallowed, an associated movement of the vocal cord occurred, for at that moment an impulse would be travelling down the descendens noni, but no means of making this observation satisfactorily could be devised.

Dr. Frazier of Philadelphia,[1] at the request of Dr. Chevalier Jackson, performed an anastomosis between the recurrent laryngeal and the descendens noni in two patients with vocal cord paralysis. The results of these operations were the same as those on the monkeys. Tension returned to the paralysed cord, but no spontaneous movement. Descendens noni-recurrent laryngeal anastomosis is therefore useless for the relief of paralysis of the vocal cord.

III.—Anastomosis with the Phrenic.

It appeared that if the vocal cord could be linked up with the muscles of respiration, then a rhythmical impulse rightly timed would pass through the anastomosis and might restore the normal movements of quiet respiration to the cord. In this case, in contrast to the dissociated movement required for the cure of facial palsy, an associated movement with the respiratory muscles would be desirable.

In the third series of experiments, therefore, the recurrent laryngeal was anastomosed to the phrenic to obtain associated movement between the vocal cord and the corresponding half of the diaphragm. In this series six experiments were performed on three baboons, a hussar monkey, and a rhesus. In one baboon, which died at the end of the fourth month, the recurrent laryngeal was implanted into the side of the phrenic, which apparently had only one root coming from the fourth cervical nerve. In another, which died at the end of a month, the recurrent laryngeal was anastomosed end-to-end with the root of the phrenic arising from the fourth cervical nerve. In neither case had any movement been restored to the cord when the animal had to be killed.

There remained, therefore, four effective experiments.

The first experiment was performed on a baboon. The right recurrent laryngeal was anastomosed end-to-end with the phrenic, and, with the object of restoring the movements to the diaphragm, the distal end of the phrenic was united to the central end of the descendens noni, and the distal end of the descendens noni implanted into the side of the hypoglossal. Stimulation of the recurrent laryngeal during the experiment caused abduction of the paralysed cord, and of the phrenic caused contraction of the diaphragm. At the end of two and a half months no movement was observed in the right vocal cord. At the end of four months the vocal cords were observed to move equally during quiet respiration. The adductor spasm caused by partial asphyxiation was followed by abduction of both cords, but the abduction was a little greater on the left (normal) side than the right.

At the end of six months the cords moved symmetrically, but the excursions of the right cord were now wider than those of the left (normal) cord. At this time the left recurrent laryngeal was anastomosed end-to-end with the left phrenic, thus paralysing the left vocal cord, whilst the right continued to act through the right phrenic. At the present time slight abduction can be observed in the left cord, but, probably owing to some injury to the neck during the administration of an anaesthetic, the right cord has again become paralysed.

These two experiments, however, show that anastomosis with the phrenic is capable of reproducing the normal movements of the vocal cords in tranquil respiration.

In a hussar monkey the phrenic was exposed and separated into two bundles, one of which was divided and anastomosed end-to-end with the distal end of the recurrent laryngeal. This animal shows only the slightest movement of abduction after ten months, and even this disappears altogether under a deep anaesthetic. On partial asphyxiation, however, adductor spasm of both cords occurs.

In a rhesus monkey the distal end of the right recurrent laryngeal was implanted into the side of the phrenic. At the end of two months the right cord was still paralysed, but it appeared to have become more tense than immediately after the operation. At the end of three months there was still no spontaneous movement, but on partial asphyxiation the adductor spasm was followed by abduction of both cords which soon ceased in the right. At the end of seven months both cords were observed to be moving during tranquil respiration, but the excursions of the right cord were not so wide as those of the left.

It may be noted that the movement of adduction, induced by partial asphyxiation, reappears before that of abduction, which corresponds to the weaker extensor movement in the limbs. This is in keeping with the disappearance of abduction earlier than adduction in paralysis of the vocal cords, supervening slowly under pathological conditions.

It is shown from these experiments that spontaneous respiratory movements can be restored to the vocal cord by an anastomosis between the recurrent laryngeal and the phrenic. The entire trunk of the phrenic is not necessary, and probably it will be found sufficient to use half the trunk, as in a lateral anastomosis, or one of the roots arising from the cervical nerves.

No case has so far presented itself in which an operation for the relief of a paralysed cord appeared justifiable in the human being, but if such should be undertaken it is suggested that the appropriate operation would be an end-to-side anastomosis between the recurrent laryngeal and the phrenic.

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SPINAL ANAESTHESIA BY STOVAINE.

BY

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In the Church Missionary Society's Hospital in Old Cairo, Egypt, spinal anaesthesia is now used as routine in all suitable operations by all the five surgeons on the staff. A beginning was made about eight years ago, when this method was used in a certain number of picked cases. It took some time for it to become popular with more than one or two of the surgeons, and the Egyptian fellaheen patients were inclined at first to resent this new method, expecting to be given something to inhale, as all their relations and friends had told them was regularly done. Little by little its scope was increased, till by the end of 1924 it was used in every suitable case unless there was some contraindication.

Exact numbers of cases are not available, but they amounted to more than 5,000 down to February, 1925, and at the present time we are doing about 2,400 a year.

Solution Used.

Stovaine is the drug used. Tropacocaine was tried, but did not give quite such good results in our hands. I do not know the reason for this, as Professor Morrison of Birmingham, one of the pioneers in spinal anaesthesia, found it so satisfactory.[1] For some time the ampoules of stovaine billon were used, but later were discarded, chiefly on the ground of expense, and lately we have ampoules put up for us by Messrs. Parke, Davis and Co., as follows: stovaine 0.1 gram, sodium chloride 0.1 gram, sterile distilled water to 1 c.cm. They are sent out to us a thousand at a time, and have proved consistently satisfactory. Their simplicity seems to add to their efficiency.

Type of Case.

The following comparative summary of the last 2,000 cases covers a period of about ten months, and shows how varied are the operations included.

Abdominal sections (including splenectomy, gastro-enterostomy, intestinal anastomosis, appendicectomy, hysterectomy, ovariotomy, etc.)	56
Vaginal and uterine operations (colporrhaphy, perineorrhaphy, curetting, etc.)	121
For inguinal hernia	330
For hydrocele, varicocele, etc.	210
Lithotrity	51
Suprapubic cystotomy (large stone, prostate, etc.)	43
Nephrectomy	3
For urinary fistula	57
For haemorrhoids	518
For rectal bilharzial papillomata	461
For fistula in ano, ischio-rectal abscess	112
Amputations	8
For injuries and various conditions	30
	2,000

It is only lately that the larger operations in the upper abdomen have been attempted by this method of anaes-

thesia, and they have been attended with great success. In eight cases of splenectomy (very large spleens in Egyptian splenomegaly) it has proved a real boon.

Previous to the use of spinal anaesthesia chloroform was mostly used, as we very seldom use ether for general anaesthesia in this climate. But now we are using very little chloroform, except in small children. Everything up to the costal margin is done with spinal anaesthesia, and many head and neck operations are done under ether by the rectum.

Method of Administration.

The anaesthetic is given in the theatre on the operating table by the surgeon himself. The patient is made to sit up and bend forwards; tincture of iodine is applied over the spines and the right space selected. This varies with the operation. The second lumbar is the most usual, but we go as high as the eleventh dorsal when necessary. The needle is inserted in the middle line, and the experience gained makes it a very easy matter to know exactly the required depth it is necessary to penetrate. If the fluid does not flow briskly the needle is turned round or pushed further or slightly withdrawn to obtain this result, and the syringe is applied. We prefer to allow as little fluid as possible to escape. This has been our practice for about the last thousand cases, with better results. A 2 c.cm. syringe is used and the spinal fluid is allowed to mix with the 1 c.cm. of the fluid in this, and the whole is injected. The whole ampoule is given for an average operation in an adult, and proportional doses for children or weak patients, or very brief operations. On withdrawing the needle a small piece of adhesive plaster is applied to the site of the puncture, and the patient lies down flat. The field of operation is then prepared in the usual manner, and by the time this is done and the surgeon is ready the operation can be commenced. In an operation on the kidney a few minutes lying flat is allowed before the patient is put on his side. The high Trendelenburg position can be safely used by the time the surgeon is ready to begin. The analgesic effect lasts generally forty-five to sixty minutes, which is sufficient for nearly all operations. Operation for double inguinal hernia and double hydrocele in one subject is often done by a quick surgeon under the usual dose. Morphine and atropine are given previously as routine in all big cases—for example, abdominal sections, etc.

A few patients who are nervous and frightened imagine they feel pain without really doing so, but a few drops of chloroform on a mask make them happy and comfortable. They remain conscious but are contented. I have known a patient who was complaining of pain become quite happy for the whole time with not more than six drops of chloroform. A patient is sometimes surprised to find he can move his legs and yet feel no sensation. Occasionally during the course of an operation the patient feels slight malaise and has a little retching, but a spoonful of brandy, with a little water, by the mouth nearly always settles this rapidly.

There is a wonderful absence of danger with this type of anaesthesia. There has been no fatality which could really be attributed to the stovaine in the whole series of more than 5,000 cases. There was one case, early in the series, where the patient died on the table. The patient was an old man who had a strangulated hernia. He was kept for four days in his village and then brought up a long journey to the hospital, finishing up by travelling by tram and walking in, so that he was in a very poor state. As soon as the stovaine was injected he collapsed and died. We feel that it was the man's condition that killed him, and that it is not fair to attribute it to the anaesthetic.

Advantages.

The advantages are very marked from the point of view of both surgeon and patient.

1. *Saving of Time between Operations.*—This means a great deal in a busy surgical hospital. It would be impossible to get through some of our days with general anaesthesia. We often have twenty to thirty operations in a morning in two or three theatres. It is a great thing for the surgeon not to have that weary waiting between operations till the patient is sufficiently under, which can scarcely be avoided with general anaesthesia unless there are two anaesthetists. He can literally go straight on from case to case. As soon as one is wheeled out the next comes in and can sit up and have the injection at once.

2. *Saving of Time during Operations.*—One needs to experience this to know it. The relaxation is always equal to, or better than, that which is only sometimes obtained by the very best general anaesthetics. This means much greater ease and rapidity for the surgeon. It is a great time-saver in operations deep in the pelvis, such as Wertheim's hysterectomy. Also in bladder cases, prostatectomy, lithotrity, and so on, it is a great help to have complete absence of straining.

3. *Saving of Work after Operation.*—The work on the nursing staff in the surgical wards is wonderfully lessened on operating days. The patients come back from the theatre conscious and fit; they have no vomiting or restlessness, and seldom need a nurse to sit by them.

4. *Saving of Staff during and after Operation.*—Not only can the surgeon dispense with an anaesthetist, but in many cases he needs less assistance at the operation owing to the good relaxation. This in addition to the saving of nursing staff in the wards after, as mentioned above.

5. *Avoidance of Troublesome or Serious Symptoms.*—From the patient's point of view there is much in favour of spinal anaesthesia, including avoidance of vomiting and distressing malaise after operation, and absence of shock. In this latter respect undoubtedly many lives are saved every year in patients who would not stand a general anaesthetic, especially in cases such as late strangulated hernia, septic appendicitis, serious injuries necessitating amputation, etc. This is noticeable in such a country as Egypt, where the people are often so late in seeking advice. There is also less risk of chest complications following operation.

Disadvantages.

There is the real disadvantage that a great number of people think they would prefer to be asleep. This is largely a matter of its being the more usual thing. Our patients here now almost all wish for spinal anaesthesia because it is the usual method. We have had many cases, some among our own workers, who have had two operations at different times, one with general anaesthesia and one with spinal, and without exception they all vote for spinal. This is a real test. A certain small number complain of headache for some days after. Our later experience is that this symptom is noticed less and less. It has certainly been less frequent since we have only allowed as little spinal fluid as possible to escape. It is troublesome, but not serious, and at present it is almost negligible in our wards. Considering the small proportion of such cases it is a very slight disadvantage and compares favourably with the symptom of post-anaesthetic vomiting after general anaesthesia.

There is the fact that very occasionally the stovaine fails to act, but these cases are very rare, and chloroform can then always be administered.

Some people have a fear of paralysis or paresis following spinal anaesthesia. I have never seen such a case, and think there is no foundation for such fear. It would be interesting to hear of authentic cases.

It is worthy of a more extended trial by others than the few enthusiasts in favour of it; certainly for foreign hospitals, where the proportion of surgical work to number of staff is so far greater than at home, it is of inestimable value. It is very considerably used in other hospitals in Egypt, as is shown by the report of Mr. Morrison of Alexandria.[2]

I must acknowledge my gratitude to my colleagues Mr. F. O. Lasbrey, Mr. J. E. Bateman, Dr. Towfeek Negibe, and Dr. Andrew Shakhashiri, for allowing me to include their results in this report.

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RHEUMATIC INFECTION IN CHILDHOOD:

THE SUBCUTANEOUS FIBROID NODULE AS AN EARLY MANIFESTATION.

BY

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RHEUMATIC infection in childhood is likely to be overlooked until such time as one of the periodic exacerbations of the smouldering infection occurs, since at other times physical signs are in abeyance. It has been stated that subcutaneous rheumatic nodules usually make their appearance only in grave affections associated with gross cardiac disease. Arguing, however, on analogy with the findings in adults suffering from fibrositis, it did not seem improbable that nodules less obvious than those of graver infection might be discovered in subacute cases. When this suggestion had been established in part by the examination of children known to be suffering from rheumatic infection, one hundred consecutive children between the ages of 2 and 12 years attending the out-patient department at the Royal United Hospital were examined very carefully for subcutaneous nodules irrespective of the complaints for which they were brought to the hospital.

FIG. 1.—Arteriole showing proliferation of lining endothelial cells. Perivascular mononuclear proliferation. Obj. 1/12 oil immersion (Zeiss). Eyepiece Leitz I.

In searching for the nodules particular attention was paid to the spinous processes of the vertebrae and to the olecranon processes. Both superficial and deep palpation was adopted; a slightly flexed position of the spine and flexion to a right angle of the elbow-joint were found to be most satisfactory, with a moderately firm application of the examining forefinger, using a to-and-fro movement on the olecranon and a rotatory movement on the spinal column. The nodules appeared to vary in size from a small sago grain to that of a pin's head, and were often in small clusters. Synovitic creaking was often obvious round the vertebral spines and is most characteristic. Individual observers vary in ability to palpate nodules, and a good deal of practice is necessary.

It has been found that the easiest way to remove nodules which are smaller in size than the impression conveyed by palpation through the subcutaneous tissues is to cut down on to a hypodermic needle thrust under the nodule.

Of the 100 children, 23 gave a history suggesting rheumatic infection, and in these no other causes of a toxic state could be elicited except *Ascaris lumbricoides* in two instances, efficient treatment of which did not alleviate symptoms complained of. The cases are divided into groups as follows:

1. Without nodules and without cardiac bruits, or cardiac enlargement or chorea (1 case).
2. Without nodules, but with cardiac bruits or cardiac enlargement or chorea (4 cases).
3. With nodules, without cardiac bruits or cardiac enlargement or chorea (6 cases).
4. With nodules, prior to cardiac bruits or cardiac enlargement (5 cases).
5. With nodules concomitant with or subsequent to cardiac bruits, cardiac enlargement or chorea (7 cases).

No nodules could be found in any of the remaining 77 children.

Sir Thomas Barlow,[1] in his classical paper, considered subcutaneous nodules "in themselves indicative of rheumatism, even in the absence of pain," and "although unimportant in themselves are nevertheless of serious import." Bronson and Carr[2] quote instances to illustrate the general fact that "the nodules are a sign of some active rheumatic focus and that they tend to disappear as the infection becomes quiescent." It is contended that nodules are a definite objective physical sign which can be elicited in a large number of children who present themselves as out-patients suffering from subjective symptoms suggesting rheumatic infection, *prior* to clinically demonstrable cardiac lesions.

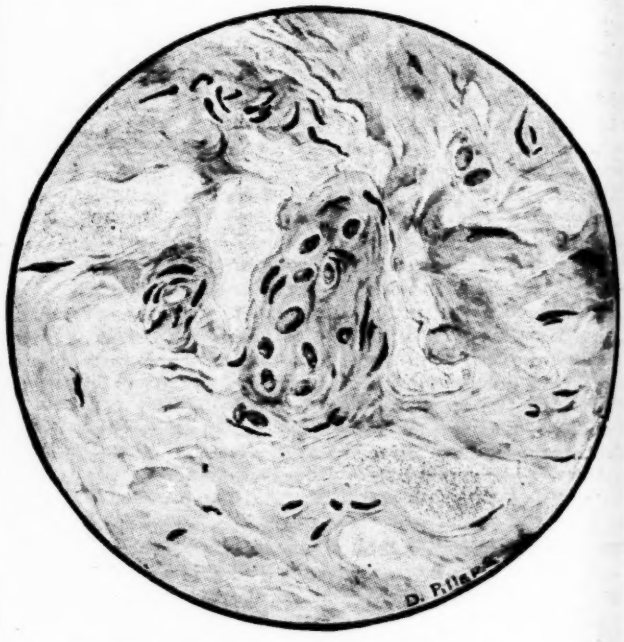

FIG. 2.—Cellular collections, mainly histiocytic in type. Obj. 1/12 oil immersion (Zeiss). Eyepiece Leitz I.

I have to thank Professor Walker Hall of the University of Bristol for making sections of nodules removed from two children and for the following reports.

Fig. 1: The nodule is composed of fibrillar tissue, aggregations of histiocytes, and inflamed blood vessels. Some of the smaller arterioles show punctate proliferations of the lining endothelial cells. Perivascular mononuclear proliferation is frequent. The connective tissue contains many nodular collections of histiocytes. As yet these do not present any signs of necrosis. It is obvious that the etiology of the nodule may be associated with a persistent irritant of the subinfective or mildly infective type.

Fig. 2: The nodule is made up of fibrous tissue, damaged blood vessels, and mononuclear collections. The fibrous tissue is of medium consistence, and in places shows hyaline changes. The blood vessels present intimal and subintimal cellular proliferation and necrosis, and are in an early stage of endarteritis. The cellular collections are mainly histiocytic in type, without any necrotic change.

Further work is being done, and it is hoped to supplement this preliminary report with details in a larger number of rheumatic children at an early date, in conjunction with Dr. R. E. Thomas of the school medical service, Bath.

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INDUCED LEUCOCYTOSIS IN THE TREATMENT OF INFECTIONS.

BY

W. A. ELLIOTT, M.B., B.S.DURH.

SOME twelve months ago Dr. Burr Ferguson of the United States Public Health Service, Southampton, spoke to me of the results he had obtained by injections of mercury salicylate in the treatment of infective conditions, and I decided to try it in some suitable cases. The method consists in the intramuscular injection of a mixture of mercury salicylate in liquid paraffin (1 grain per cubic centimetre), 1 c.cm. being injected at intervals of one week up to four or six doses, or less if the desired result is obtained earlier. This is the usual method, of course, in treating syphilis. Some of the cases which I tried were as follows:

CASE I.

A man, aged 46, with a condition of chronic infection of the lungs following pneumonia bronchiectasis, had attacks of pyrexia and chest pains whenever he had a chill; they confined him to bed and made him very ill for a time. There were physical signs of chronic pleurisy. He had been immersed in the sea for many hours after a torpedo attack on his ship during the war, and his chest trouble began subsequent to this. During one bad attack I waited until the more acute symptoms had subsided, and then gave him two injections of mercury salicylate, at an interval of five days. The result was a complete recovery, with abatement of all chest pains, and free and easy breathing. The patient was enthusiastic about the treatment. Previous to the injections he stated that he had a chronic depression of spirits, with a feeling as though there was a load on his chest and weights on his legs. After the injections he was buoyant again, and walked more lightly and with the elasticity which he used to have before his attack of pneumonia. The good results obtained have so far persisted.

CASE II.

A man, aged 51, suffering from a fairly large carbuncle on the back of the neck, was confined to bed and suffered from much pain. The carbuncle was being treated with boric fomentations and was steadily enlarging and forming a central crater containing a large mass of hard dead epithelial debris. I gave an intramuscular injection of 1 c.cm. of mercury salicylate, and on the following morning there was a most perceptible softening of the mass. It continued daily to get rapidly better; the slough was cast off and an uneventful recovery ensued.

CASE III.

A woman, aged between 50 and 60, was suffering from chronic dermatitis of the whole body, with bleb formation and much irritation. I treated this with calamine lotion, and in several weeks there was a marked improvement over the whole body, but new formations of blebs continued to appear. I therefore gave two injections of mercury salicylate at an interval of five days, and complete recovery ensued, no further outbreak of blebs occurring. The condition had been troubling her for many months.

For local infections of the skin I have long had a strong faith in calamine lotion, which seems to have a peculiar, or what is usually termed a "specific," effect in healing skin infection. Ferguson has investigated the results on the blood of the injection of mercury salicylate, with the assistance of Dr. Simson, who was tuberculosis officer at Southampton at the time. His results revealed an immediate general leucocytosis in the blood within twenty-four hours of the injection. He has found that certain salts of arsenic produce a similar effect, and that in malaria quinine produces a similar leucocytosis, though not so pronounced. The conclusions drawn are that the "specific" action of mercury, arsenic, and quinine in certain diseases is all due to a general leucocytosis produced in the blood.

In my opinion the local use of calamine lotion produces a local area of leucocytosis which causes its "specific" action in skin infections, and the same effect is produced by unguentum hydrargyri ammoniati. In these cases the salts of the heavy metals zinc and mercury produce the result locally. I have repeatedly noticed a bluish coloration of the skin around the areas treated with calamine lotion, suggesting a blood change at that area. This leucocytosis of the blood is considered by Dr. Ferguson to be the reason for the happy results of intramuscular injections of mercury salicylate in infective conditions, the increased number of leucocytes killing the infective agents.

OPHTHALMOLOGY IN EGYPT.*

BY

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THE problem of subtropical ophthalmology, with which I have become familiar in Egypt, may be considered under two heads—first, as affecting the European population, and second, as affecting the native Egyptian population.

EUROPEAN POPULATION.

1. *Effect of Sun, Dust, and Wind.* — The healthy emmetropic eye becomes painfully affected by the sun's glare in the summer when motoring or riding along dusty roads or over the desert. The heat rays from the red end of the spectrum which cause this may be prevented by wearing protective goggles of Crookes B or B2 material; but if discomfort is complained of the refraction of the patient should be verified under a cycloplegic. There are other varieties of protective glasses, which theoretically are more absorbent of the heat rays than Crookes glasses, as shown by Sir Arnold Lawson at the Ophthalmological Section recently, such as peacock-blue, fieuzal, and amber. I have found in a large number of instances that ordinary glass, in which is included if necessary a very small ametropic correction, is all that is required. The effect of sun, dust, and wind in causing pinguecula and pterygium must be remembered.

2. *Effect of Fatigue, Ill Health, and Worry.*—Fatigue, ill health, and worry bring out latent defects in the eyes in any country. A hot climate causes greater fatigue than a temperate, and this may lead to fatigue indigestion, with resulting physical depression. Worry, whether official or private, similarly may cause ill health. Under these conditions trifling errors of refraction, if present, or slight degrees of heterophoria exert effects quite out of proportion to their actual severity. It is therefore of the greatest importance that correction of these errors should be made as carefully as possible, generally under a cycloplegic such as homatropin, and that the correcting spectacles should be adjusted accurately by the optician. In a highly sensitive patient, whose nerves are constantly being jarred by physical or mental discomforts, the correction of a very small degree of astigmatism may make all the difference between happiness and misery. The symptoms which patients with an uncorrected error of refraction complain of are headache, neuralgia, frequent frowning with consequent fatigue of the subcutaneous muscles of the forehead, indigestion, inflammation of the edges of the lids, with perhaps suppuration of the glands of the lid margins, and so on.

3. *Effect of Acute Conjunctivitis.*—The same organisms cause this among the Europeans as among the Egyptians, and will be considered when speaking of the latter. I have seen acute gonococcal conjunctivitis in English children of 2 or 3 years of age, which had no doubt been contracted from the chronic gonococcal conjunctivitis of servants, without any suspicion of venereal taint.

4. *Effect of Chronic Conjunctivitis.*—The chronic conjunctivitis most prevalent in Egypt is trachoma. It occasionally attacks English children who have been taken care of by Egyptian or Nubian servants.

5. *Treatment.*—I have mentioned the importance of the accurate correction of ametropia; the glasses should always be worn in the sun and dust at any rate. This, with a good sun-hat, is all that is required in most cases, but tinted glasses may be ordered if they give relief to the patient. In dusty seasons it is most advisable to wash from the eyelids the dust which collects there and which may contain septic material. This should be done three times a day. In many cases this simple precaution is sufficient to prevent constantly recurring attacks of conjunctivitis. It must not be forgotten that dental apical abscesses and pyorrhoea are a fruitful source of ophthalmic trouble.

* Abstract of a communication read at the Section of Tropical Medicine of the Royal Society of Medicine, February 12th, 1925.

NATIVE POPULATION.

It is impossible to deal even cursorily with all the eye affections peculiar to a subtropical climate. I have, however, selected the following conditions about which to make some remarks: acute ophthalmias, chronic ophthalmias, ankylostomiasis and changes in the appearance of the fundus oculi, bilharziasis and eye conditions, an epidemic of chancres of the eyelid, and fly-blown orbit or orbital myiasis.

Acute Ophthalmias.—The number of new patients attending the hospitals is very much greater in the summer than in the winter, increasing from a winter figure of about 400 a day to a summer maximum of 2,800 a day. The increase is largely made up of acute conjunctivitis cases, especially of gonococcal conjunctivitis. This condition is usually of non-venereal origin, the infection spreading from eye to eye, by means of the fingers, towels, etc. Flies also play a part in the transference of the infection (this was discussed, but cannot be dealt with in an abstract). Travelling to the hospitals is easier in the summer, but the increase in the number of patients is more closely related to the increase of temperature, curves representing these showing similar variations.

[The author also dealt in some detail with the subjects mentioned in the previous paragraph.]

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

DIPHTHERIA AT THE AGE OF SEVENTY-TWO.

IN view of the rarity of diphtheria at any age over 60, the case here described may be worth publishing.

A lady, aged 72, was admitted on December 17th, 1924, for a fracture of the neck of the left humerus. She was feeble, childish, and demented. On January 24th, 1925, she was noticed to have a purulent, slightly haemorrhagic discharge from the left nostril. A case of diphtheria had occurred in the ward a few days before. A swab was forwarded to the Clinical Research Association, which reported Klebs-Loeffler bacilli present. There was no faucial exudation. A second swab on January 26th was also positive. In view of the unusual age, a third swab was taken on January 27th, from which the Clinical Research Association kindly did a test for virulence. A pure culture of Klebs-Loeffler bacilli was isolated and proved fatal to a guinea-pig in forty-eight hours. The patient's condition forbidding her transfer to an isolation hospital, she was isolated throughout in a small ward here. She received in all 24,000 units of antitoxin. A swab on February 12th was still positive. On February 20th, however, it was negative, and again on February 25th. Meanwhile, on February 23rd, she had a cerebral haemorrhage; she died on March 2nd. I do not think the diphtheria had anything to do with her death.

In my own experience, which has included three years in an isolation hospital, I never met with a case of diphtheria at this age, or indeed anywhere near it, nor have I heard of one.

I am indebted to my colleague, Dr. Thomas Dolan, for the prompt detection of the case, as well as for the treatment and notes.

London, E.11. J. C. MUIR.

GALL STONES IN A MALE AGED EIGHTEEN: CHOLECYSTECTOMY: RECOVERY.

I READ a report of this case to the Cambridge Medical Society on February 6th, and as no one present could parallel the age in a male subject I venture to think that it may be of sufficient interest for publication. I have heard of the same condition in a female of 16 years, at St. George's Hospital.

A somewhat frail-looking, pale undergraduate of 18, medium height, and spare, enjoyed ordinary health until the spring of 1924, when he had acute appendicitis, which was "sat on" for ten days. He was ultimately seen when an abscess had formed, and dealt with by a London surgeon, undergoing, in all, three operations. He made a good recovery.

For two or three weeks in November, 1924, the patient had discomfort in the epigastric region about one and a half hours after meals; this subsided with dieting and medicine. On November 17th, while walking in the street with a friend at 2.30 p.m., he was suddenly seized with violent abdominal (epigastric) pain, which doubled him up and made him sweat. He reached home with difficulty, supported by his friend, who put him straight to bed, and called me to see him.

When I saw him at 3.15 p.m. he looked thoroughly ill. The temperature was 97.2° F., pulse 80, respirations costal. The pain had become less severe. On palpation the upper right rectus muscle was rigid and exceedingly tender. There was no jaundice. The patient did not seem ill enough for perforation, yet the findings, in conjunction with the history and the age, seemed to suggest that the most probable provisional diagnosis was that of a perforated duodenal or gastric ulcer, and I therefore sent him to a nursing home for observation. At 4.30 he was easier, but the pulse had risen to 96. At 7 o'clock the pain had become very severe again, and he looked worse. Laparotomy was decided upon.

At 8.30 I made an upper right rectus incision, displacing the rectus outwards after freeing it in its sheath. When the peritoneal cavity was opened no evidence of any perforation was discovered, but the gall bladder was found to be acutely inflamed and markedly thickened, especially towards the proximal end; it contained small, easily palpable stones. The gall bladder was freed and excised, the ducts being found to be free from further stones. A tube was put in, down to the stump, and the abdomen closed in layers. The patient made a complete recovery.

Pathological Report.—"The stones are dark reddish-brown, and consist of bilirubin chiefly. The wall of the gall bladder is very markedly thickened and tough, and the mucosa is very dark red, and apparently haemorrhagic. Microscopic section shows congestion and haemorrhage into the mucosa, a little superficial ulceration of epithelium, and much submucous round-celled infiltration and fibrosis. A chronic cholecystitis with recent subacute inflammation."

Cambridge. R. SALISBURY WOODS, M.D., F.R.C.S.

ANTERIOR POLIOMYELITIS, HERPES ZOSTER, AND VARICELLA IN SEQUENCE.

THE following case seems of sufficient interest to place on record. The sequence of events—anterior poliomyelitis, herpes zoster, and finally varicella—suggest the possibility of some connexion between the three conditions.

G. E., a boy aged 5 years, was admitted to University College Hospital under the Surgical Unit on September 4th, 1924, suffering from anterior poliomyelitis affecting all the muscles of the left leg. The condition dated from ten weeks previously. It commenced with headache and malaise, rapidly followed by inability to move the left leg. On admission there was marked wasting of the muscles of the left leg; no voluntary movement was possible in it except to a slight extent through the action of the glutei. The boy was treated by extension on a Thomas's splint and massage.

By October 15th some power had been restored to the extensor muscles. Two days later his temperature rose to 99.4°, and on October 18th herpes zoster developed along the distribution of the first and second lumbar nerves on the right side; an increasing number of vesicles appeared during the succeeding days. By October 23rd the temperature had reached 101°, a generalized chicken-pox rash appeared, and the child was removed to the infirmary. Thirteen days later two further cases of varicella occurred in the ward in which the boy had been.

Another case illustrating the connexion between herpes zoster and chicken-pox occurred some years ago. A girl returned home from school suffering from herpes zoster; her brother, who had been playing with her, but had not been exposed to any other infectious case, developed typical varicella thirteen days after the return of his sister.

London, N.W. H. S. MORLEY, M.R.C.S., L.R.C.P.

GUMMA OF CAECUM MISTAKEN FOR CHRONIC APPENDICITIS.

ABOUT a year ago I had occasion to treat a woman for a tertiary syphilitic condition. Her husband, when questioned, admitted that a few years previously he contracted syphilis, but that he was then quite "cured." I advised him to undergo treatment, but he refused. About a month afterwards I was called to see him. He complained of slight pain and discomfort in the right iliac region extending over a period of months; otherwise he stated that he was quite well and able to follow his daily occupation as driver of a wagon. I discovered a lump in the right iliac fossa, with slight tenderness on pressure, and made a provisional diagnosis of chronic appendicitis. I advised operation, and when I opened the abdomen discovered that the lump was an indurated, glistening enlargement of the lower end of the caecum, about the size of a duck's egg. The tumour had a springy feel, and the whole structure, including the appendix, was firmly bound to the posterior abdominal wall by a mass of adhesions. As it was futile to try to remove it the abdomen was closed.

When the abdominal incision healed sufficiently the patient was put on antisyphilitic treatment and the mass rapidly disappeared. When last heard from he stated that he was feeling quite fit and that the pain and discomfort previously complained of in the appendix region never troubled him again.

Lockeport, Nova Scotia. F. H. ALEXANDER, M.B., Ch.B.

BRAIN ABSCESS SIMULATING DEMENTIA PARALYTICA.

THE following case may be of interest, as it shows how an abscess of the brain may cause many of the symptoms of general paralysis of the insane.

A man was admitted to this hospital on January 20th. He was dull and apathetic, listless, and indifferent to his surroundings, and had some difficulty in walking. No external marks were noticed on admission. His pupils were stationary, reflexes very exaggerated, gait unsteady, memory for recent and remote events poor, speech, though not slurring, very hesitant. He appeared to be drowsy. There was incontinence of urine and faeces. He was put on a liquid diet, which he was able to take without difficulty. In a few days he became less confused, and it was noticed that the left side of the body was paralysed. Lumbar puncture was performed on January 27th. The cerebro-spinal fluid was under very high pressure; the Ross-Jones and Weichbrodt tests were positive, as was the acetic anhydride, sulphuric acid test. The Wassermann test was positive 100 per cent. + 4 in the cerebro-spinal fluid and 40 per cent. + 2 in the serum. He was ordered potassium iodide 20 grains three times a day. On February 7th his temperature rose to 100° F.; the pulse was 140, respirations 22. At 9.30 the following morning he suddenly collapsed and died.

The necropsy revealed areas of suppuration in the upper and middle lobes of the right lung, and an area of softening in each corpus striatum and each internal capsule, more marked on the right side; otherwise the viscera were quite normal, and no gummata were found anywhere. The bacteriological examination of the abscesses showed some staphylococci and streptococci in the brain and the same in the lung with many other organisms.

The history, as given by deceased's wife, is that on January 13th the patient was knocked on the head by a trunk of a tree while unloading timber; that on January 15th he gradually became drowsy, complained of loss of memory, and could not look after himself.

S. GROSSMAN,
Assistant Medical Officer,
Cardiff City Mental Hospital.

INTRAPERICARDIAL RUPTURE OF AORTIC ANEURYSM IN AN INFANT.

THE following notes on a case of aortic aneurysm in a child may be of interest in view of the rarity of the condition at that age.

A male child, aged 20 months, was admitted on November 16th, 1924, with enlarged glands in the left anterior triangle of the neck and high temperature. The child was fairly well nourished but was very flabby, with yellow skin, and presented a somewhat cretinous general appearance. The enlargement of the glands was probably largely due to pediculosis capitis, as they subsided considerably after a week in hospital. The temperature ranged from 100° F. in the morning to 103° to 104° F. in the evening till death. The abdomen was rather large for the age and somewhat doughy, and a provisional diagnosis of tuberculous peritonitis was made. Nothing abnormal was discovered during the routine examination of heart and lungs.

On November 28th, while sitting up having its meal, the child suddenly turned pale and fell back, and when I saw it about two minutes later was dead.

I performed the *post-mortem* examination on the following day. On opening the pericardium a large fresh blood clot was seen enveloping the heart. The pericardium was quite smooth, except the visceral layer over the aneurysm, which had small fibrinous deposits. There was no blood in the mediastinum. The left ventricle showed moderate hypertrophy. The valves were normal. The foramen ovale and ductus arteriosus were closed. Commencing three-quarters of an inch above the aortic ring, the anterior and right walls of the aorta were deficient for seven-eighths of an inch, the aorta opening into a saccular aneurysm which extended along the upper end of the ascending aorta, covering its anterior and right aspects. The aneurysm was one inch in diameter. Practically the whole aneurysm was inside the pericardial sac. The inner wall of the aneurysm was shaggy; there was no recent clot. No definite opening could be found, but over an area a quarter of an inch in diameter on the anterior surface the wall of the aneurysm thinned down to the thickness of note-paper, and through this the blood must apparently have leaked.

The lungs were normal; the thymus also was normal in size for the age. The mediastinal lymph glands were enlarged; there was no caseation. The liver weighed 1 lb. 3 oz. fresh; there was no macroscopic evidence of cirrhosis. The abdominal glands were rather large; there was no caseation. The spleen, kidneys, and intestine were normal; there was no evidence of peritonitis.

The Wassermann test was not made, nor have I been able to obtain the consent of either of the parents to a blood examination; but when the child was in hospital, about three months previously, an entry in the notes stated "Liver enlarged, (?) congenital specific."

I am indebted to Dr. Williams for permission to publish these notes.

B. GLUCK, M.B., Ch.B.,
Senior Resident Medical Officer, Kent and Canterbury Hospital, Canterbury.

Reports of Societies.

COCAINE: GOUT: COLLOIDS.

AT a meeting of the Section of Therapeutics and Pharmacology of the Royal Society of Medicine, held on March 10th, with the President, Professor A. J. CLARK, in the chair, Dr. J. TREVAN gave an account of the physiological properties of some derivatives of cocaine.

Dr. Trevan explained that Miss Boock and he had carried out certain experiments on eleven derivatives of cocaine prepared by Mr. W. H. Gray. These derivatives had been obtained by substituting aromatic alcohols for the methyl group of the cocaine molecule, and the substances used for experimental purposes also included two derivatives of pseudo-cocaine. The toxicity of these various compounds was estimated by the effect of intravenous injection of solutions into mice: by using a sufficient number of mice the average lethal dose was obtained for each derivative, and this was used for comparison with the figure obtained in the same way for cocaine. The series proved very irregular in its toxicity: the least toxic was the salic oil derivative. The next investigation was to estimate the anaesthetic power of the various compounds. Standard cocaine solution was instilled into one eye and a solution of the substance to be tested into the other, and it was sought to find the minimum concentration necessary to produce loss of the corneal reflex. The best results were given by the benzyl derivative of pseudo-cocaine. A further step in the investigation of the anaesthetic properties was a series of "blindfold tests" on guinea-pigs. One worker handed unknown solutions to the other, who injected them under shaved portions of the skin of the animals, which were then pricked over the site of the injections until they ceased to squeak. The time for this to take place was noted, and the results afterwards worked out with reference to the substance used and its concentration. An attempt had been made to determine a therapeutic ratio for each of the derivatives used. The average lethal dose was divided by the minimum anaesthetic concentration, and this again divided by the same figure for cocaine. Some of the derivatives showed a high therapeutic ratio. Dr. Trevan pointed out that the solubility of the various compounds added to the complexity of the problem, and, similarly, some of the derivatives were more irritant than others, which also had to be taken into account. Of the group examined, the pseudo-benzyl compound seemed to be the most satisfactory from all points of view.

Dr. J. H. BURN inquired whether the constrictor action of the various compounds had been worked out, since it was important to know how far a low toxicity to animals was a guarantee of therapeutic usefulness. He asked whether any of the substances produced necrosis, for example. The PRESIDENT inquired if mice varied a great deal as to the lethal dose required. Dr. TREVAN replied that there had not yet been time to investigate the constrictor action of the cocaine derivatives. With regard to the susceptibility of mice, ninety animals were necessary to get a result within 10 per cent. of accuracy.

Dr. W. J. SMITH JEROME read a paper on the unknown factors in gout. He apologized for submitting what was an unsubstantiated supposition, but he felt that his suggestions went a long way towards solving the problems long associated with the biochemical mechanism of gout. He suggested that there were two unknown factors in gout. The first was that in gout uric acid occurred in the body in an abnormal form. As a result of some infection certain tissue cells were broken down and their nuclein yielded an abnormal type of uric acid of a colloidal nature which was unable to pass through the kidneys and was retained. The ordinary crystalline variety of uric acid was excreted in the usual way. The second unknown factor was a disturbance of the saline equilibrium caused by a violation of Ringer's law. Dr. Jerome then described how his suggestions would explain the various problems of gout.

Miss STEABBEN reported her observations on the action of colloidal substances on blood elements and antibody content. She explained that she had attempted to find some experimental evidence of the mechanism by which colloidal

substances appeared to have a beneficial effect in certain infectious processes. Her experiments had consisted of investigations in animals as to the minimum effective dosage, the changes produced in the blood elements, the action of colloidal substances on a stationary condition of immunity, and as to whether the production of immunity could be stimulated by the injection of colloids. The colloidal preparations used consisted of iron, silver, gelatin, dextrine, peptone, agar, and an emulsion of typhoid bacilli, while a solution of crystalline iron sulphate was used as a control. As far as dosage was concerned, there appeared to be some relation between the amount of colloid used and the changes produced in the blood elements and in the general condition. With regard to immunity production the colloids alone appeared to have no effect, but a combined injection of colloidal substances and an emulsion of killed typhoid bacilli gave rise to a definite increase in agglutinating titre as compared with controls. Miss Steabben suggested that the effects produced were probably mainly due to an alteration in the permeability of the lining of the blood vessels.

Dr. DOROTHY HARE referred to the immense quantities of colloidal preparations used within recent years, and expressed the hope that Miss Steabben would be able to extend her work to the chronic infections in human beings.

The PRESIDENT welcomed a paper on this subject which gave some positive facts as to the result of the injection of colloidal substances, for which, he said, there was nothing on earth which had not been claimed. He inquired whether it was the metal or the protective colloid which was thought to produce the effects reported.

Miss STEABBEN replied that she had made her own colloidal preparations of the metals so as to avoid this difficulty, and the effects produced were probably due to the metallic elements.

CONTAGIOUS ABORTION AND UNDULANT FEVER.

A JOINT meeting of the Comparative Medicine, Tropical Diseases, and Obstetrics Sections of the Royal Society of Medicine was held on March 12th, with Professor L. S. DUDGEON, the President of the Tropical Diseases Section, in the chair.

A discussion on infective abortion in cattle and its relation to Mediterranean (undulant) fever was opened by Professor JOHN EYRE. He gave a brief summary of what was already known about the diseases. He stated that, while infection was frequently caused by ingestion of the bacillus, inoculation was also an undoubted mode of entry, by cuts and abrasions coming into contact with infective bedding and excreta. Other possible paths of entry were sexual and from the hands of the attendants conveying infected milk to a healthy udder. He stated that abortion was a very frequent symptom in cattle, but that only about half of the infected goats aborted. It was uncommon in women, although lactation was often reduced. The morphology of the organism varied. In Mediterranean fever it was typically coccoid with a tendency to lengthen somewhat in culture. In contagious abortion it was a definite bacillus. It was doubtful whether they were really identical morphologically. The great question was as to the pathogenicity of the bovine organism to man. Until 1920, when Bevan reported cases from Rhodesia, it had not even been suggested. Since then several instances had been reported. Evans in America had done considerable work with the serums, and was able to show that there were very close resemblances between the two. For example, an *abortus* bovine serum would agglutinate *melitensis* organisms, and vice versa. Diagnosis of the human *abortus* cases had been based so far almost entirely on clinical symptoms, and so far he was of the opinion that bovine abortion in man should be regarded as non-proven.

Mr. L. E. W. BEVAN, who was unable to attend, contributed a paper on the disease as it exists in Southern Rhodesia. He pointed out that one of the characteristic symptoms of *melitensis* infections in goats was abortion; but that veterinary surgeons generally did not consider the disease identical with that caused by *B. abortus* in cattle. In the human disease in Rhodesia the organism was identical with *B. abortus*. Although infectious abortion had existed for a long time in cattle, it was only recently that the disease had been recorded in man. In that subject the fever was less undulant and more irregular and persistent than the Mediterranean type of undulant fever. In discussing the methods of control of the disease in Rhodesia, Mr. Bevan indicated that the prevention of infection to man was ultimately part of the duties of the veterinary department. In the prevention of the disease in cattle, he had for some years now been using a "devitalized" vaccine (which should not be confused with a "dead" vaccine). It was prepared by treating saline suspensions of living bacilli with chloroform. This agent ruptured the organism without destroying its toxins. He considered that this vaccine possessed more specific antigenic powers than those in which these properties had been partly or totally lost by heat, subcultivation, and so on. The vaccine was not curative, and merely set up a temporary immunity until the source of the infection could be removed.

Sir P. BASSETT-SMITH stated that, although undulant fever had been traced to India and South Africa, it was significant that no cases occurred in Great Britain, where a large percentage of the cattle were infected with *B. abortus*, which must be frequently ingested by man in the milk. He had recently examined 130 serums from patients (who were not suffering from undulant fever) for specific agglutinins, and found that only two were positive—and that only up to 1 in 40. This made it highly probable that there did not exist any immunity to the disease in Britain. Bacteriologically the Mediterranean fever organism when freshly isolated was always a coccus, which in culture became a bacillus. The colour varied, and he had found that colour reactions were useless. The clinical symptoms of the South African disease were not the same as those of undulant fever. It was premature to suggest that the organisms were identical; their pathogenicity was the only reliable test.

Professor LOUISE MCILROY stated that she had been unable to isolate any causal organism from human abortions in this country. In the cases examined the organisms were obviously contaminations. Nor had she been able to implicate any bacterial origin in the epidemic abortion which she observed in 1919, and which was probably a toxaemia. She observed that a number of cases of recurring abortion were habitual. A woman in her first pregnancy would abort owing to some slight accident, and although apparently healthy would acquire the habit of aborting at subsequent pregnancies. There was no organism causing contagious abortion in woman other than syphilis.

Colonel J. C. KENNEDY stated that it was impossible to differentiate the two organisms, which had been placed by the Americans in a new genus, Brucella. Pathologically, also, they seemed to be identical except for men and monkeys. In the undulant fever work in Malta they had found what they took to be *M. melitensis* in cows, but which in the light of more modern work might well have been *B. abortus*. It was assumed that cow's milk would not carry the disease, and a special herd of cows had been reserved for the Governor's use. So far as he remembered there had been no cases of undulant fever in the Governor's household. Abortion did occasionally take place in the goat from *melitensis* infection.

Dr. J. T. DUNCAN gave a detailed account of a recent case of human undulant fever from Rhodesia examined by him. The patient, a butcher, had been resident in Southern Rhodesia for fifteen years. He did not drink goat's milk, but had been in the habit of taking large quantities of cow's milk. When seen by Dr. Duncan the disease was at least six months old. A blood culture was made of the organism, which belonged to the Brucella group, and was present in a state of purity. It was indistinguishable morphologically from *B. melitensis* when cultivated under similar conditions. Using the patient's serum, a stock *melitensis* serum, and an *abortus* serum of bovine origin, he had carried out cross-absorption tests. The differences, as a rule, were slight; but in cases where there were differences the Rhodesian strain always

resembled the *abortus* strain more closely than it did the *melitensis*. Cultures were also made, and in these also the Rhodesian organism was very similar to *B. abortus*. Cultures of the three strains were also examined in lacrymal secretion in the hope that some special human affinities might be found, but there was never any evidence of lysis. Dr. Duncan believed that the weight of the evidence pointed to *B. abortus* as the cause of Rhodesian undulant fever in man, and the cow as the source of infection. Experimental proof was still awaited; as also was a really trustworthy test to distinguish *B. abortus* from *B. melitensis*. He was unable to state why *B. abortus* should be pathogenic for man in Rhodesia and not elsewhere.

Dr. H. H. SCOTT drew attention to an interesting and suggestive paper by Fica and Alessandrini which had been recently published, and which, if confirmed, might help to simplify the distinction between the two organisms. These authors record two cases of undulant fever due to *B. abortus*. The symptoms agreed with those in the *melitensis* disease, except that the fever was less undulant and more persistent. They had found that if the serum before being inactivated were diluted with distilled water (instead of saline) to 1 in 50, and subsequent dilution made with saline, then true antimelitensis serum would not agglutinate after heating for half an hour at 65° C.; but that antiabortus serum would agglutinate when heated to this temperature, and even up to 75° C. Dr. Scott suggested that if this method were found to be practicable on further investigation, then a very useful technique would be available for distinguishing the two varieties of the disease.

Mr. A. L. SHEATHER pointed out that once cattle had aborted from the disease they often did not abort at future pregnancies, although remaining carriers of the bacillus. A farmer who attempted to eliminate the disease by attending only to aborting animals was doomed to failure. In fact, cattle did not necessarily abort at all. There were no definite lesions associated with the disease in cows except when in calf; in fact, the disease could be said not to exist in non-pregnant cows. Abortion took place in the great majority of cases about the seventh month—not, as had been suggested, earlier in the first abortion, later in the next, and so on, ultimately disappearing. This was certainly not the case. He had also found that all antiserums were useless in the treatment of bovine abortion. In connexion with the non-specificity of serums, he recalled the case of a man who, suffering definitely from glanders (proved by means of diagnostic bacteriological tests), had a serum which reacted to *B. typhosus*, an organism from which he had never suffered.

NEUROCYTOMA.

A MEETING of the Medico-Chirurgical Society of Edinburgh was held on March 4th, with Sir DAVID WALLACE, the President, in the chair.

Dr. R. A. FLEMING and Dr. JAMES DAVIDSON reported a case of neurocytoma in a boy aged 4 years.

The patient, admitted to hospital on December 15th, 1923, presented a remarkable appearance: he had a large head, the vertex overhanging a rather small face. There was considerable asymmetry, the left frontal and the left and right parietal regions showing marked local prominences suggestive of tumour formation. Extensive ecchymoses involved both eyelids; the superficial veins over the forehead, lateral and occipital regions were greatly dilated, and there was proptosis of both eyes. The boy was quite blind and corneal ulceration had begun in both eyes. The sutures of the skull gaped and both fontanelles were patent and pulsating. The spleen and lymph glands were somewhat enlarged. The blood showed the picture of pernicious anaemia. There was no optic atrophy, nor neuritis, but the boy suffered from attacks of vomiting preceded by nausea, and not of the usual cerebral type. His memory was good and intelligence average. The diagnosis during life was difficult, chloroma and suprarenal tumour being considered. The chief points in the history were as follows. About October 5th, 1923, the boy had fallen out of bed a distance of two feet and landed on his head. He got back to bed unassisted and made no complaint of pain. A day or two later he was found to be a little deaf, and a week later both eyelids were seen to be discoloured. Soon after this he began to have sudden severe intermittent attacks of pain in the head, referred to both temples and the top of the head; he also had occasional attacks of vomiting. His head progressively enlarged and the eyeballs became prominent. The boy's previous health and family history were satisfactory.

At the necropsy a large homogeneous mass was found replacing the left suprarenal gland. Metastatic growths were found in the liver, pancreas, lymph glands, and the long bones. The cranium was the site of large growths involving the subcutaneous tissues of the scalp and eroding and involving the bones so that most of the extradural cavity was occupied by malignant growth. The growth had extended into the orbit, protruding externally and enucleating the eyeballs. The tumour had not become subdural at any part, and the brain was unaffected.

Dr. DAVIDSON showed lantern slides of sections through the tumour, demonstrating the nature of it to be neurocytoma. He commented on the recent changes in the interpretation of tumours of the nervous system, and pointed out that neoplasms of the nervous system might be composed of the developing cells of the various parts of that system. Thus tumours composed of cells which were the forebears of the sympathetic system, the chromaffin system, ganglion cells, or neuroglial cells, might occur. Tumours such as the case described were originally classified as sarcomata, and it was under this heading that Hutchison's ten cases reported in 1907 were placed. The course of these cases was similar to the case described, and the description of the histological appearances of the primary tumour corresponded very much with the appearances found in tumours which were now called neuroblastomata.

In the discussion which followed, Professor BRAMWELL described the case of a boy in which a brain tumour was found at autopsy, and in that case, as in Dr. Fleming's, the onset of the illness was referred to an injury. An actual causal relationship between trauma and brain tumour was, however, often questionable.

Dr. STEWART FOWLER said that in patients with the shape of the cranium as described in this case the diagnosis for all practical purposes rested between chloroma and suprarenal tumour. He referred to five cases in his own experience in which the diagnosis between these two conditions was frequently doubtful, as the blood picture in chloroma was not always characteristic.

The Parkinsonian Syndrome.

Professor EDWIN BRAMWELL then read a paper entitled "The so-called Parkinsonian syndrome, with special reference to epidemic encephalitis." He drew attention to the frequency of appearance of this syndrome lately, and since it was typically met with in paralysis agitans he referred to this disorder. He pointed out that Parkinson, in his original definition, laid stress on tremor and lessened muscular power as the main symptoms. Later, Erb and Charcot drew attention to the rigidity, the immobility of the face, and the frequent absence of tremor. Discussing the pathology of this syndrome, Professor Bramwell referred to the various views held, and to the very general agreement nowadays that the lesion involved the basal ganglia. The fact that the syndrome was so frequently met with in epidemic encephalitis, and that the anatomical changes in that disease were situated more particularly, in the majority of cases, in the upper part of the brain stem, afforded corroborative evidence in support of the view that in paralysis agitans the causative lesion was situated in this region. The clinical features so far as the rigidity was concerned were summed up as a peculiar type of rigidity without spasticity, slowness of movement without actual voluntary motor weakness, a loss of automatic movement, and a tendency for the limbs to remain in a fixed position which had to be overcome by an effort of will. Professor Wilson's review of the dual innervation of muscle had stimulated observations and speculations relating to the subject of the mode of production of this peculiar type of muscular rigidity, but the brilliant experimental observations by the late Professor Irvine Hunter had served to replace pre-existing speculation by proved fact. Professor Bramwell referred to the plastic and contractile tone of muscle as demonstrated by Sherrington in the decerebrate animal, and said that Hunter's work on the wing of a bird after section of the somatic fibres justified the conclusion that the sympathetic nerve supply of skeletal muscle was responsible for the property of plastic tone. So, just as spasticity resulted from a lesion of the cortico-spinal neurons, exaggeration of plastic tone was produced by a lesion involving neurons associated with the corpus striatum and gave rise to the symptom-complex named the Parkinsonian syndrome. Both

those conditions were therefore release phenomena. The further interesting question arose: Assuming that corroboration was obtained of Ramsay Hunt's observations to the effect that the lesion in paralysis agitans was to be found in localized disease involving certain groups of neurons arising in the globus pallidus, was it the case that in epidemic encephalitis these neurons were actually affected and particularly selected?

In the discussion which followed, Sir DAVID WALLACE paid tribute to the brilliant work of John Irvine Hunter, and observed how much science had lost by his early and tragic death.

ZOOLOGY IN THE MEDICAL CURRICULUM.

AT a meeting of the Royal Medico-Chirurgical Society of Glasgow on March 6th, the President, Professor ARCHIBALD YOUNG, in the chair, Professor J. GRAHAM KERR communicated some general remarks upon zoology and the medical curriculum.

Professor Graham Kerr remarked that the attitude of the medical profession had changed greatly during the last few decades, it being now generally recognized that zoology was one of the important basic sciences in the medical training. It did not seem, however, to be within the domain of practical politics to advocate any extension of the time being given to this subject in the present congested state of the medical curriculum. A preliminary step would have to be the relief of that congestion, and at present there was no general agreement whether this could be best brought about by lengthening the curriculum, by reserving two preliminary years for a training in the basic sciences as in various American schools, by cutting down considerably the amount of post-registration chemistry, by relegating specialist courses to the post-graduation period, or by some other method. In the meantime the main determining factor in planning the course in zoology was the rigid time limit. Perhaps the most important object of the course was the training in biological method, which was the method used later on in the general work of the practitioner. It was not the method of the "exact" sciences consisting mainly of measurement and calculation, but rather the method used in early childhood, when by far the greater part of the mental development took place. In ordinary school training this method was replaced by the gulping down without question of information supplied by the teacher. The result was often disastrous as regards the development of the powers of observation and of reasoning from observations; to undo this harm and to develop further these powers was the chief function of the introductory zoological part of the curriculum. Emphasis was laid upon the special importance of drawing as a means of developing the powers of observation.

The part played by the course in zoology in leading up to anatomy, physiology, and pathology was emphasized, and Professor Kerr concluded by accentuating the importance of turning out the fully qualified practitioner at the end of his curriculum as a naturalist who would view the problems before him with the eye of the naturalist. Many of the greatest triumphs of medicine in the past—the solution of such problems as inflammation, malaria, yellow fever—had been reached by tackling particular problems as problems in natural history, and this would also be the case in the future. An avenue of great promise was the study of the internal medium of the body, in which the members of the cell community still led their ancestral aquatic existence. Slight deviations from the normal ordered complexity of this internal medium induced specific physiological reactions; greater deviations induced reactions which were recognized as pathological. The various normal activities of the living body were intimately adapted to the normal composition of the internal medium; included in these were the processes of normal cell multiplication and growth. It seemed to him probable that the deviation from the normal regular processes of growth, such as occurred in malignant growths, was in many cases due to an abnormal condition of the internal medium in some part of the body, the result of neighbouring associated tissues failing to supply their normal contribution. He suggested the great biological interest of experimentally injecting an extract of pure connective tissue into actively growing epitheliomata. If the normal epithelial growth was dependent upon the connective tissue framework supplying its proper contribution, then irregularities in such growth might be expected to be countered by supplying the appropriate contribution artificially in the form of extract from a culture of pure connective tissue.

HYPERTROPHY OF THE COLON.

A CLINICAL meeting of the Aberdeen Medico-Chirurgical Society was held on March 5th, the PRESIDENT (Dr. Peter Howie) in the chair. Dr. WILLIAM BROWN showed a case of Hirschsprung's disease in a boy of 3 years, the youngest of a family of eight. There was no history of tubercle or syphilis in the family, and the patient's Wassermann reaction was negative. Attacks of diarrhoea had occurred during the past eighteen months, with swelling of the abdomen, visible peristalsis, and rumbling noises which all disappeared temporarily when an aperient was given. There was no constipation. On admission to hospital peristalsis of the large bowel was visible. Screen examination after a barium enema showed an enormous pelvic colon lying in the right iliac fossa and extending up to the liver, with dilatation of the descending and transverse colon. Treatment consisted of lavage with saline solution, at first once, later twice, daily, with a weekly dose of castor oil. Great improvement followed, the peristalsis ceased, the abdomen decreased in size, and the tone of the wall improved. Recent examination showed that the calibre of the colon was smaller and the tone of its walls better. The patient was not confined to bed. Photographs and tracings of the radiographic examinations were exhibited.

Mr. ALEXANDER MITCHELL showed a case in which treatment of a streptococcal arthritis of the knee by Willem's method had resulted in a completely mobile joint. He emphasized the necessity for making the incisions the whole length of the joint, and for full active movement. Pain was an obstacle to movement, but by adopting Everidge's method of a back splint slung by an arrangement of weights and pulleys the effect of gravity could be almost entirely eliminated. Dr. A. G. ANDERSON showed a boy who had sustained a fracture of the skull in a motor accident; the signs and symptoms indicated the existence of a right-sided cortical lesion. Immediate operation revealed a diffuse meningeal haemorrhage, and decompression was followed by recovery, practically complete in two days. There were no sequelae. Dr. Anderson also exhibited a case of chronic adhesive mediastinitis in an adult woman, where the signs were cyanosis of the upper part of the body, breathlessness, and staring eyeballs. There was no evidence of aneurysm or neoplasm, and the condition was either tuberculous or syphilitic. Mr. WILLIAM ANDERSON showed a tailor, aged 31, who complained of loss of power in extending the fingers of the right hand. It was found that the extensores communis digitorum and carpi ulnaris did not react to faradism. There were no sensory changes. *X*-ray examination showed uniform thickening of the shaft of the radius, and the Wassermann reaction was strongly positive. All ordinary treatment by electricity and physiotherapy had proved useless. Mr. G. H. COLT demonstrated a small loose body removed from the upper end of the olecranon fossa in the elbow-joint. He raised the question whether the loose body was a chip off the epiphysis which had continued growing, nourished by the synovial fluid, or represented a complete ossific centre.

THE PAINFUL DYSPEPSIAS.

AT a meeting of the Brighton and Sussex Medico-Chirurgical Society on March 5th, Dr. E. F. MAYNARD, the President, in the chair, Mr. H. N. FLETCHER read a paper on some points in connexion with the painful dyspepsias and their diagnosis.

Mr. Fletcher remarked that the old view of hyperacidity as the cause of pain had been discarded, except in so far as it might be so indirectly; he then described the experiments of Hardt, Carlson, and others, and their evidence that increased intragastric tension was the true cause. Reference was made to the recent views of A. F. Hurst

as to how this increased tension was brought about by the reflex influence of diseased states within and without the stomach, and the need for further knowledge of the neuro-muscular apparatus of the stomach, the exact part played by the vagus and sympathetic nerves, and their possible control through Keith's nodes was emphasized. Mr. Fletcher then described in detail the salient characteristics of the common causes of painful dyspepsias, gastric and duodenal ulcer, gastric cancer, cholecystitis, chronic appendicitis, visceroptosis, and "nervous" dyspepsias. He laid stress upon the paramount necessity of obtaining a detailed history and making a physical examination of the patient; he defined the important differential points concerned in diagnosis.

The PRESIDENT agreed with Mr. Fletcher regarding the time incidence of pain as a valuable means of differentiation between gastric and duodenal ulcer. Vomiting was not at all characteristic of gastric ulcer. With epigastric pains and vomiting present, not gastric ulcer but disease of the gall bladder or duct was suggested. The pain in the gall bladder radiated up to the right shoulder. Epigastric pain might be due to angina, pericarditis, or pleurisy. He considered that in neurasthenia there were almost as many cases of hypochlorhydria as hyperchlorhydria.

Mr. G. W. BERESFORD remarked that in neurasthenic subjects slight pain was exaggerated into severe pain. Excluding dyspepsia of nervous origin, epigastric pain was due to an organic lesion in the upper abdomen. He was doubtful about the existence of chronic appendix dyspepsia.

Dr. W. BROADBENT said that in his experience of duodenal ulcer there had seldom been any previous history of dyspepsia. He referred to the diminution in the number of gastric ulcers of recent years, and suggested that modern hygiene might account for this. Neurasthenic dyspeptics complained of very severe pain, but there was absence of tenderness on palpation.

Dr. DONALD HALL supported Mr. Fletcher's statement that *x* rays were not so reliable in duodenal as in gastric ulcer, and quoted three cases.

A medical man, aged 47, had symptoms of duodenal ulcer for seven years, with typical time incidence, relieved by taking food and alkalis, and with the characteristic remissions. By *x* rays a diagnosis was made of chronic duodenal ulcer, but a surgeon advised a course of strict Sippy dieting for six months. On this régime the patient was free from symptoms, but before the six months had elapsed he had for the first time pain and tenderness in the right iliac fossa. He was operated on the same evening, when the greater part of the appendix was found to be represented by a mere cord, while the proximal stump was acutely inflamed and would have progressed to perforation. That patient had had repeated mild attacks of obliterative inflammation without there being at any time pain or other symptoms in the region of the appendix; but in his case there was a possible fallacy, because the surgeon did not feel justified at the laparotomy in exploring the upper abdomen, and there might have been a coexisting duodenal ulcer. He had, however, on ordinary diet been free from symptoms now for eighteen months.

A middle-aged clergyman had suffered from painful dyspepsia for several years and had declined exploratory laparotomy. He had then been *x*-rayed and was found to have dropped colon. After a sudden attack of acute agony, as from perforation, he was operated on, and a large tear was found in a chronic ulcer of the duodenum. He died on the following day.

A retired army officer, aged 56, with a long history of dyspeptic troubles, was radiographed. Lane's kink and visceroptosis were found, and after an elaborate surgical operation he was sent down to Brighton to convalesce. He became suddenly ill during lunch, and at first sight appeared to be dead. Later on he was found to have fainted as the result of severe internal haemorrhage. Melaena was present for some days, and after medical treatment for several weeks gastro-enterostomy was performed and the clinical diagnosis of duodenal ulcer was confirmed.

Dr. Hall stated that he was a firm believer in "appendix dyspepsia" as a clinical entity, but where local signs were wanting the mentality of the patient must be carefully studied before operation. Abdominal operations based solely upon subjective symptoms were to be deprecated.

Dr. W. BARRINGTON PROWSE said that too much must not be expected from *x*-ray examinations, and the result must always be taken in conjunction with the clinical evidence; but there was no doubt that *x*-ray examinations were a very valuable help in doubtful cases. In supposed gastric cancer, *x* rays were extremely valuable as a help in determining the question of operation.

THE CATARRHAL CHILD.

A MEETING of the Bristol Medico-Chirurgical Society was held at the University on March 11th, the President, Dr. J. O. SYMES, in the chair. Dr. James Swain, C.B., C.B.E., M.S., who had been for twenty-five years a member of the Editorial Committee of the society's *Journal*, and for longer a very active member, was elected an honorary member of the society.

Dr. R. C. CLARKE opened a discussion on the catarrhal child. The views he wished to put forward might be new, but they were based on extensive observations in children's clinics of several thousand children, and represented ideas that had forced themselves upon him. The subject was one that had not received the attention it deserved. Only of late years had the routine examination of children supposedly healthy been systematically undertaken. When advice was sought only for acute bronchitis or bronchopneumonia, the significance of preceding bronchial infections might escape notice. Among children between 3 and 6 weeks old, not less than half were already subjects of respiratory catarrh; in the last thousand cases the exact figures were 499 with catarrh, 501 without. "Catarrh" was diagnosed on the simultaneous presence of three signs: (*a*) snuffles, (*b*) Harrison's sulcus, (*c*) definite bronchial catarrh, determined by auscultation. In this connexion, he wished to warn members about "snuffles." A nasal catarrh, a napkin rash, and the marasmus which followed inability to suck, from nasal obstruction, must not lead to the (false) diagnosis of congenital syphilis. When a young infant "caught cold," the first thing that occurred was nasal obstruction. The whole respiratory mechanism was thrown out of gear, for infants refused to breathe except through the nose. Only when half stifled would they open the mouth and breathe through that, so that sleep was disturbed. The drawing in of the lower ribs produced Harrison's sulcus; the latter was a sign solely of nasal obstruction. Rickets might emphasize it, but did not cause it. Since sucking was deficient, feeding became very difficult; if the child did not suck properly the natural stimulus of the breast was lost, and the breast milk might go—a disaster, especially among the poor.

The earlier the catarrh affected the child, the longer it took to clear up and the greater the certainty that the chest would be affected. If the first "cold" could be postponed till after the sixth month, it was practically certain that the chest would escape. But in a series of 400 sufferers, every baby that had nasal catarrh under 4 weeks old had bronchitis. Further, Dr. Clarke believed that once a child became bronchitic it remained bronchitic; every cold "flew to the chest," and it was proper to describe some children of only 6 months old as "chronic bronchitics." As the children grew up, the attacks continued; but between the acute attacks there could always be found signs in the chest. The bronchitic baby produced the bronchitic child, and later the bronchitic man; witness the almost invariable presence of Harrison's sulcus in pensioners with bronchitis. Further, he believed that chronic nasal catarrh was the one and only cause of "tonsils and adenoids"; the latter phenomenon was merely a part of the picture of chronic respiratory catarrh. A badly developed nasal organ, leading to deflection of the septum, and a permanently damaged mucosa, leading to chronic sinus disease, were other sequelae of the same condition. The otitis media, so very common among school children, was probably only a recurrence of an unnoticed otitis in infancy. The development of this catarrhal condition depended on two factors: (1) the number and virulence of the organisms reaching the mucosa; (2) the local and general resistance. (1) The amount of infection depended on the presence of persons carrying these organisms and the lack of ventilation. (2) As to resistance, he did not think the mucosa of the young infant had any power of resistance; and the membrane which had been subjected to repeated infection never gained this power, which was otherwise definite. The very young baby invariably got the whole respiratory tract infected if any part was involved.

Dr. Clarke maintained that prophylaxis of this condition was not difficult. During the first six months of

life every effort must be made to avoid infection. The baby should live in the open air, even in a draught; this rule should not be broken even during the bath. The mother should be examined to exclude chronic suppurative rhinitis; if this was found, the use of a mask during the whole time that she was doing anything for the infant was important. The same rule applied to the nurse, though no nurse with a definite nasal infection should be engaged. All visitors should be subjected to the same rule, and never allowed to kiss the child. The parent, nurse, or other children who were carriers—those who nourished the organisms of disease without manifesting symptoms—presented a difficulty. As for treatment of older children, this was important, because the mucous membrane, if preserved from repeated infection, did recover some power of resistance. Hopelessly infected tonsils and adenoids should be removed. The same general hygienic rules as for infants should be observed; the child should live in the open air, and visits to the cinema, and parties, should be reduced to a minimum. Cod-liver oil was the only medicine of any value.

The PRESIDENT thought that Dr. Clarke had described an entirely new disease. According to the thesis, 50 per cent. of all children born got bronchitis within four weeks of birth and were bronchitic thereafter. For his part, he had not met with this disease. He thought that up to 6 months of age children were extraordinarily immune to infection. The picture they had had presented might be produced by underfeeding, rickets, or teething—all might manifest "catarrh" without there being any infection. Dr. Symes suggested that small children did not readily clear the trachea of secretion, which might lead to râles, etc.

Dr. C. E. K. HERAPATH agreed with Dr. Clarke. He thought this a disease of the hospital class. As for clearing the air passages, very young babies sneezed more than adults. Mr. J. P. I. HARTY believed that infection of the air passages could take place at a later age than that discussed by Dr. Clarke, especially from parent or nurse. Otitis media was quite common at the very earliest ages. He thought adenoids should be removed at any age, without waiting.

Dr. P. WATSON-WILLIAMS thought Dr. Clarke wanted to make their flesh creep. He was glad to hear that Dr. Clarke thought "tonsils and adenoids" were a response to infection. "Catarrh" was the important matter. One should not remove the tonsils in very young children; these glands had often great value in the fight with infection, and should be preserved as long as possible. Having had many years' experience as a physician, and given especial attention to the chest, he could not agree with the large incidence of bronchitis described. He was interested in Dr. Clarke's observations on sinus disease in families; he had had many cases where sinus disease in all the children of a family coexisted with a latent sinus infection—perhaps producing no symptoms—in one or other parent.

Dr. R. A. ASKINS (school medical officer) thought 20 per cent. of all children of school age suffered from adenoids. The prevention of so much sickness was of first importance. Further, bronchitis was very common among the children at primary schools. He had observed the frequency with which the operative treatment of tonsils and adenoids was needed in all members of a family. He considered that children had some inherited immunity in respect of ordinary infections, which lasted for some months after birth; but this did not occur with catarrhal infections.

Dr. J. A. NIXON thought that though Dr. Clarke's views were extremely heterodox, they drew attention to an important aspect of catarrh. Why should the chronic sequelae of catarrh occur only in the poorer classes? What factor was concerned other than perhaps feeding? He thought it very necessary to guard the newborn from loss of heat—was this properly done among the poor? One need never mistake catarrh for congenital syphilis; in the latter the discharge was purulent. He agreed that Harrison's sulcus was a sign of nasal obstruction only. Dr. Clarke had omitted the question of asthmatic children, those sensitive to certain proteins; such a condition might lead to bronchitis.

Dr. J. R. R. TRIST called attention to the extreme sensitivity of other mucous membranes, such as the vaginal, in the young child. He agreed with the view that young children should be properly protected from loss of heat. Dr. C. J. C. FAILL remarked that the tuberculous child was not "catarrhal." If children were to be exposed in all weathers to the open air—that is, naked—they must have bronzed skin and be well fed; then they did not require clothing. Mr. A. W. ADAMS pointed out that newborn babies seemed immune from empyema; he thought this could hardly be consistent with such a very high incidence of bronchial infection. Dr. J. A. BIRRELL felt that perhaps Dr. Clarke had mistaken the sounds produced by a flapping soft palate for bronchial râles. Did asthma occur at the age of a few weeks, and was "croup" a condition analogous to asthma? He could not agree that newborn children might safely be exposed to cold.

Dr. CLARKE, in reply, said that he thought the newborn child was infected very readily. Pneumonia did occur in children of this age, and explained some of the cases of "sudden death" in infants. His figures were from four clinics, but all from the lower strata of the population. Catarrh did not confer any immunity, but rather predisposed to a further infection. He had formerly thought that repeated infection was the principal factor in producing the chronic catarrhal child, but he now thought that the earliness of the infection was the real deciding factor. Children did not seem to mind the cold; but the poor used much more clothing for their children than the well-to-do. He thought most cases of asthma in young children were really bronchitic.

Mr. H. CHITTY showed three cases: (1) Osteomalacia in a girl of 18; union of ununited fractures of the tibiae followed local injections of colloidal magnesium. (2) Ununited fracture of the tibia in a child of 5; local injections of magnesium, and a rib graft, had alike proved ineffectual. (3) Double pleural empyema in a child; both sides of the chest were opened at the same operation, with perfect result.

Mr. A. W. ADAMS showed a case of malignant disease of the thyroid, with secondary glands, relieved by operation; specimens and sections were shown with the case.

HERNIA THROUGH THE TRANSVERSE MESOCOLON.

AT a pathological meeting, on February 26th, at the Liverpool Medical Institution, Mr. HEANEY and Mr. SIMPSON read a note on two cases of hernia through the transverse mesocolon into the lesser sac. One case was in a woman, aged 52, with many years' history of gastric trouble. The whole of the small intestines, except the last few inches, had passed into the lesser sac and then returned through the gastro-hepatic omentum. A marked degree of hour-glass contraction of the stomach occurred where the coils crossed the stomach. The hernia was reduced and a gastro-enterostomy performed; the patient died eleven months later of valvular disease. The other case, in a woman aged 38, gave a sixteen years' history of gastric disturbance. The whole intestine had passed into the lesser sac, but had emerged again through the gastro-colic omentum; there was hour-glass contraction of the stomach and an ulcer on the lesser curvature. Reduction of the hernia with excision of the lower sac and ulcer proved successful and the patient recovered completely. The seventeen cases collected by Rendle Short were alluded to, and also a case recorded by Coffey; in no previous cases had definite hour-glass contraction been found. The second case was exceptionally interesting, since in Pringle's case, and also in the case illustrated by Crimble, adhesions had much obscured the picture.

Mr. Heaney and Mr. Simpson thought that the hernia was due to enteroptosis, and they discussed the origin of the hole in the transverse mesocolon, which might have been due to upward pressure on the small intestine behind the loaded colon, to congenital deficiency, to rupture of the sac, or to a retroperitoneal hernia into the rare inter-mesocolic fossa. Cases were mentioned of such congenital abnormalities occurring.

Reviews.

THE COCHLEA.

WILKINSON and GRAY, in their work on *The Mechanism of the Cochlea*,[1] recall the circumstance that Helmholtz undertook a minute study of the cochlea in the expectation of proving that it acted as a resonator, since he held that there existed no way by which the ear could analyse sounds except that of sympathetic vibration. He hoped to find in the cochlea some mechanism analogous to that of the piano, the strings of which vibrate sympathetically to sounds of similar vibrational rates emitted in their neighbourhood; the microscopical technique of his time was insufficiently advanced to furnish convincing proof of the truth of the theory. Other theories have since been mooted, resting on the supposition of analysis of sound impressions by the brain, but none have been proved and the mechanism of the cochlea is still a vexed question. The recent work of the authors, however, on the function of the spiral ligament, the principle of maximum stimulation, and the demonstration of the bearing of the factor of mass on the working of the cochlea, has removed most of the difficulties standing in the way of an acceptance of Helmholtz's theory, and the authors' book is a restatement of the resonance theory in the light of these new facts.

To appreciate the analogy between the cochlea and a stringed resonator such as the piano, it is necessary to imagine the cochlea unrolled. There will then appear a straight tube of bone, divided into an upper and a lower chamber by a delicate basilar membrane stretched across its cavity. The chambers, which are filled with fluid, have at the base of each a small window closed by membrane; the one membrane serves to transmit vibrations from the exterior to the fluid and basilar membrane, the other (that closing the foramen rotundum) allows, by a slight outward yielding, for the displacement of fluid caused by the vibration of the membrane. The problem is to show that the transverse sectors of the basilar membrane form a series analogous to the strings of a piano, as regards tension and other physical conditions. The essential features of the latter are that the strings are shorter and more tense in the higher octaves and become longer and less tense in passing down the scale; and that the thickness, or weight per unit of length, increases from above down in the series. In the mechanism of the cochlea, as expounded by the authors, these three factors—the serial variation in length, tension, and weight—appear to be represented. As regards length, the basilar membrane gradually increases in width from the base (that is, near the two foramina) to the apex; the transverse sectors therefore show a gradual increase in length. As regards tension, the authors have shown that the spiral ligament, by which one border of the membrane is attached to the bony wall, is stouter towards the narrow end of the membrane and gradually diminishes in thickness towards the broader end. From this it is inferred that the tension of the shorter sectors is greater than that of the longer. As regards weight, since there appears to be no appreciable difference in the thickness of the basilar membrane in its different parts, the necessary weighting has to be sought for outside the membrane, as in the case of the piano, where the lower strings are weighted with a close spiral of copper wire wound round them, without which vibration would be impossible. The authors consider that the necessary weighting is provided by the fluid in the lower chamber—that connected with the foramen rotundum, which, as before mentioned, is situated near the narrow end of the basilar membrane. Vibration of sectors in this situation will only entail movement in the small column of fluid between it and the foramen rotundum; while vibrations of sectors more remote from the foramen will involve movement in a column of fluid which increases in length with the increase in length of the vibrating sector. It is to the inertia of these varying columns of fluid that the authors ascribe the factor of weight.

The book contains many other matters of interest connected with hearing, including an article on the damping of vibrations, by Professor Milner; and as it is written with exceptional clearness it will prove attractive to the intelligent layman as well as to the physiologist.

[1] *The Mechanism of the Cochlea: A Restatement of the Resonance of Hearing.* By George Wilkinson, M.B.Cantab., F.R.C.S.Eng., and Albert A. Gray, M.D.Glasg., F.R.S.E. London: Macmillan and Co., Ltd. 1924. (Demy 8vo, pp. xx + 253; 50 figures. 12s. 6d. net.)

BROCQ'S LECTURES ON DERMATOLOGY.

BROCQ,[2] the doyen of French dermatology, has collected and published in a large volume many of his clinical lectures on certain types of skin disease. Although some of the lectures date from as far back as 1896, and some are as recent as 1923, there is an undoubted constancy of outlook throughout the whole series, which shows that, though the fundamental attitude of the distinguished author towards the problems of dermatology may have developed, it has certainly not essentially changed since the early stages of his career. The value of the book lies largely in the carefully detailed clinical observations and clinical histories derived by the author from his very extensive private practice over many years. These dermatological dramas he unfolds with all the felicity of phrase and epigrammatic skill which we have long learnt to associate with French medicine, and uses them to illustrate his favourite theses of cutaneous reaction and morbid predisposition with the most delightful aptitude. If a sceptical reader may be permitted to criticize ever so delicately, it might be hinted that the amazing accuracy with which the facts fit the author's theories is almost terrifying! While ready to avail himself of the new therapeutic weapons provided by modern research into the bacteriology of skin diseases, Brocq has taken little part in that work. He is essentially a clinical observer of great acumen and a therapeutic artist of much resource, rather than the apostle of scientific experiment.

Another great French dermatologist of a more modern generation, Sabouraud, has also recently published volumes of clinical lectures, and the two authors provide an interesting contrast. Both have busied themselves principally with the commoner dermatoses, but while Sabouraud has the distinction of having solved the problems of impetigo and ringworm by the purely scientific methods of the microscope and the test tube, the conditions which have occupied the mind of Brocq for the major part of his career—namely, the diverse manifestations of dermatitis or eczema, the production of lichenification, and the relations between dermatoses and the internal condition of the human organism—still present problems of etiology and pathology which are, for the most part, unanswered. Brocq can, however, claim to have put these problems in a form which at some future time will facilitate their scientific solution. It is also quite possible that the theories of cutaneous reaction and so on, with which he so skilfully fits his clinical experiences, may some day find a sure biochemical foundation as our knowledge of the delicate chemical mechanisms involved in human metabolism is further advanced. Brocq in this book does not confine himself entirely to theories: there are chapters on the treatment of acne, of eczema, of lupus erythematosus among other subjects, and, as would be expected, any medical man, whether specialist or general practitioner, can profit from the experience of so distinguished a dermatologist. Though the book is long, it will well repay trouble of perusal. Like many French publications, the printing is good; the forty-two photographs with which it is illustrated are well reproduced, but it is unbound, and it is sewn together so weakly and poorly that, in the words of the domestic servant, "It comes to pieces in the hand."

[2] *Cliniques dermatologiques.* By L. Brocq. Paris: Masson et Cie. 1924. (Roy. 8vo, pp. 739; 54 figures. Fr. 60.)

GROWTH.

KNOWLEDGE concerning normal and abnormal growth has made great advances in recent times, so that the subject is now presentable in systematic form; it has an important bearing on pathological processes such as hypertrophy, inflammatory new-formation, and tumours. Apparently it is at present regarded as being too remote from the practical

matters of medicine, surgery, and gynaecology, to claim much of the student's time, but there is very little doubt that some day it will be recognized as one of the main foundations of pathology.

An excellent little book on *Growth*,[3] which every student may be recommended to read, has been written by Mr. DE BEER; it gives the main facts within a small compass, and clearly shows their bearing on pathological questions. Thus, one of the most interesting problems discussed is the limitation of the size of organs within definite bounds—the cessation of growth when the adult size and form have been reached. This is shown to be due, in part, to the balance between growth on the one hand and the metabolic wear and tear of the tissues on the other; but other factors come into play. Tissues of high metabolic activity are found to exercise an inhibitory influence on those of lower metabolic activity; for instance, the growing point of plants inhibits the growth of the nearest lateral buds within certain limits, and if the growing point is arrested in its development by artificial means the lateral buds will become dominant and grow, and the terminal bud will die. Another instance of the power of one tissue over another is seen in the culture of tissues *in vitro*. A piece of kidney will dedifferentiate and grow as a sheet of embryonic cells; apparently the separation from the control exerted by the rest of the organism sets free its inherent capacity for independent, undifferentiated growth. If, then, a piece of connective tissue be added to the culture, some of the cells will differentiate into tubules, characteristic of the kidney. Similarly, a culture of carcinoma of the breast produces an undifferentiated mass of cells, but the addition of connective tissue causes a differentiation in the direction of the normal breast tissue. Such observations as these would seem to throw considerable light on the nature of tumour formation.

The starting point and main theme around which de Beer's book is written is that growth is a fundamental property of living matter, and takes place whenever circumstances do not prevent it. The actual phenomena observed in growth are first described, and this is followed by the discussion of regeneration, asexual reproduction, abnormal growths, the causes and nature of growth, substances stimulating it, and external conditions affecting it. There are also interesting chapters on size, the rate of growth, and senility. A selected bibliography is appended to each chapter to guide the student in a more detailed study of the subject.

THE NATURE OF THINGS.

SIR WILLIAM BRAGG is making a second reputation. The first was won by pioneering work in the borderland of physics and chemistry, and especially by the application of x rays for the determination of the architecture of crystals; the second is being gained by his exposition of such matters. His most recent book, for which he has borrowed the Lucretian title *Concerning the Nature of Things*,[4] is founded on a course of lectures given at the Royal Institution; it is concerned with the structure of atoms, with the nature of gases and liquids, and with crystals—the diamond, ice, and metals. The discussions on bubbles and scums in the chapter on liquids will perhaps be of special interest to medical folk, because, better than any other writing we have come across, it enables the reader to visualize the plan of a molecule and its relations to other molecules. Even the sketch here given is sufficient to make plain the amount of information of fundamental importance to physics Professor C. V. Boys has extracted from the soap bubble. It is a thin-walled air-filled sphere of solution bound within and without by a film of soap molecules with water molecules; it holds together by reason of the film, and the film holds together owing to the properties of the soap molecule, of which Sir William Bragg writes:

"It is of very curious shape, many times as long as it is broad; and it is made up of a chain of carbon atoms fringed along its length with hydrogens, and ending, at one end, in a little bunch of three hydrogen atoms, at the other in a little group consisting of oxygen and sodium. The former of these bunches is very self-contained: its attractions for other atoms and molecules are small. But the latter is by no means so unsociable: it is an active group tending to enter into association with others, and especially it has a strong desire to join up with molecules of water, for which reason the soap dissolves in the water. Because, however, it is only one end of the chain which is very active in this respect—the other end and the sides of the chain behave differently—the soap molecules are apt to stay on the outer fringe of the water if they come there in the course of their wanderings. In this way a real film forms on the surface of the water, consisting of soap molecules standing on end, so to speak, one end rooted in the water, and the other exposed to the air. They are packed together side by side like the corn in a field, or the pile on a piece of velvet. They are not as free, however, as the hairs of the pile: they are tied together side by side, because there is some force of attraction between them when so laid alongside."

The behaviour of what we have for short called "scums" illustrates what happens when oils are allowed to spread on the surface of water. On to a perfectly clean water surface a powder, such as talc, is thinly dusted; a fine drawn glass point or needle is dipped in oil, and nearly all the oil wiped off; when this slightly greasy point is dipped into the dusted water surface a circle is instantly cleared around the needle; this is due to the activity of the oil molecules, which, spreading equally in all directions, drive away the dust particles.

"Each molecule hastens to root itself in the water by its active end, and stands upright, as if it were a water plant rooted and growing in the water. In the end all the molecules are successful, and a thin sheet, one molecule thick, covers the surface of the water; its thickness is of the order of a ten-millionth of an inch. By measuring the weight of the oil that has been placed on the water—a difficult task, since it is so small—and the area covered, it is possible to find a measure of the thickness of the film. . . . On the result of [this] work it was possible to assert that the thickness of the layer was such as would be expected if it were one molecule thick; and the argument was greatly strengthened by the fact that when different substances, known by chemists to be chain molecules of different length, were placed upon the water, the thickness varied with the length, as it ought to do."

These quotations will serve as examples of the way in which Sir William Bragg deals with his subjects. The first chapter, on atoms, is very clear and easily understood; the last chapters, on crystals, are rather stiffer, but the reader is led on gently from the simpler to the more abstruse.

GUY'S HOSPITAL REPORTS.

THE first number of the seventy-fifth volume[5] of the *Guy's Hospital Reports* opens with the sermon preached by the Bishop of Oxford in St. Saviour's Cathedral, Southwark, at the commemoration, on January 6th last, of the bicentenary of the hospital, and contains two full-page plates—a fine engraving by Bartolozzi of the tomb of Thomas Guy in the hospital chapel and a drawing of the hospital on January 6th, 1925, by Mr. Hanslip Fletcher. There is a full and sympathetic memoir of the late Dr. Lauriston E. Shaw by Dr. John Fawcett, illustrated by a full-page photograph and by Stanley Cock's kindly caricature of "Laurie" from the *Guyoscope* (1897); it contains extracts from the obituary notice of this active member of the British Medical Association which appeared in our columns (1924, i, 40). Of the thirteen articles dealing with professional subjects two are by the indefatigable editor, Dr. A. F. Hurst, and seven others are on subjects dealing with the alimentary canal, and it may be suspected, even when not so stated, due to his inspiration. There are three articles on ulcerative colitis; Dr. Cyrus Ive analyses six cases, four of which were treated by the Lister Institute's multivalent antidysenteric serum; two patients were definitely improved, though none were dramatic cures. Dr. J. F. Venables records a case of recovery with a stricture of the pelvic colon, a very rare sequel of sporadic ulcerative colitis. In the third article on this disease, which owes so much to Guy's physicians, Dr. A. F. Hurst

[3] *Growth*. By G. R. de Beer, B.A., B.Sc., F.L.S. London: E. Arnold and Co. 1924. (Demy 8vo, pp. viii + 120; 33 figures, 7 plates. 7s. 6d. net.)

[4] *Concerning the Nature of Things*. Six lectures delivered at the Royal Institution. By Sir William Bragg, K.B.E., D.Sc., F.R.S. London: G. Bell and Sons, Ltd. 1925. (Cr. 8vo, pp. xii + 232; 32 plates, 56 figures. 7s. 6d. net.)

[5] *Guy's Hospital Reports*, vol. 75 (vol. 5, fourth series), No. 1, January, 1925. Edited by A. F. Hurst, M.D. London: Wakley and Son (1912), Ltd. 1925. (Med. 8vo, pp. 124; 3 plates, 9 figures, 9 charts. Subscription £2 2s. for volume of four parts; single numbers 12s. 6d. each.)

brings forward evidence in favour of the conclusion that medical is more successful than surgical treatment; among 118 cases treated surgically the mortality was 24.6 per cent., whereas none of his thirteen cases treated medically proved fatal. Dr. R. N. Ganz of Harvard contributes a note on the importance of the presence of leucocytes in the "resting" gastric juice, and Drs. K. D. Fairley and Cyrus Ive find that neutral red, after intramuscular or intravenous injection, is so irregularly excreted into the stomach that it is not of any value as a clinical test. Mr. G. G. Exner and Dr. Cyrus Ive report a case of very severe anaemia, secondary to dental sepsis, successfully treated by removal of all infective foci, early administration of a vaccine of a haemolytic *Streptococcus longus*, and transfusion of defibrinated blood from a donor, who four hours before had been inoculated with the vaccine. Mr. W. H. Ogilvie's paper on the surgical aspects of gall-stone disease contains a number of original observations; he finds that the gall bladder is entirely lacking in temperature sensation and in sensibility to light touch; he also localizes the pain due to its distension; in addition a number of experiments with injections of inert particles were undertaken in order to elucidate the problem of infection of the gall bladder. Mr. R. P. Rowlands writes vigorously on the waste of life from appendicitis, which in England and Wales is responsible for 3,000 deaths a year, mostly in the young. The treatment of asthma at Mont-Dore is described from personal experience by Dr. A. F. Hurst, who attaches considerable importance to its psychological atmosphere as well as the ordinary methods of the cure; in an appended note on four other spas in Auvergne he repeats the dictum that more cases are caused than cured by Plombières treatment. A case of rheumatoid arthritis of dental origin, in which the teeth appeared superficially normal, is related by J. N. A. as a medical autobiography. Massage and remedial exercise in disease of the circulation by Dr. G. H. Hunt is the first of a series of articles dealing with physiotherapy. Dr. Geoffrey Marshall describes the circulatory changes in wounded soldiers, with special reference to the influence of drugs used for the production of anaesthesia, and Dr. Maurice Shaw gives an account of a new technique for the Sigma reaction.

NOTES ON BOOKS.

A LITTLE book by Mr. R. T. HUGHES, *Hints on Notemaking*,[6] might advantageously be studied by medical students. Considering the amount of time that is wasted by students in taking notes most teachers probably would advise an abolition of the habit. A certain degree of experience is needed before the nature and value of notes can be appreciated, and this the student does not possess. The matter can, however, be put in a nutshell: In the early stages of his career the student, in his observation of facts, is dependent on his teachers and textbooks for the correctness of his ideas on the subjects of study; they are his mental controls. As he advances in his course he gradually becomes independent of these leading strings and is able to trust his own faculties in the observation of facts, and it is only when this stage is reached that his notes come to be of value. Henceforward the teaching of his mentors and textbooks can be gradually discarded and replaced by his own observations. Notes now become absolutely essential, for it is only by their aid that he can hope to recall and retain the impressions of the innumerable facts that he receives in the course of months and years. Most students fail to take notes of this kind; they cram textbooks and students' aids so called—mere words and printer's ink. The right and necessary use of textbooks at this stage is to enable students to compare their own observations with those of others, to correct their observations with the assistance of better authorities than themselves, and to gain information on subjects that have not come under their notice.

Dr. GUBB of Algiers has compiled a *Questionnaire Médical*, English-French-Arabic, and has added a list of organs, of numbers, and of times of the day or week. The Arab phrases are printed in roman type and appear to be given in the local dialect. Copies of the pamphlet can, we are informed, be obtained free of charge from Nestlé's Milk Company, Rue Charras, Algiers.

[6] *Hints on Notemaking in Science and Mathematics for Students and Teachers.* By R. T. Hughes, M.A. London: G. Bell and Sons, Ltd. 1925. (Double sup. roy. 32mo, pp. 132. 2s. 6d. net.)

The spirit of the medicine of the age is illustrated by the titles of the current textbooks; a few years ago the five large volumes on *Endocrinology and Metabolism*, edited by Professor Lewellys Barker of Baltimore and others, were reviewed in our columns (BRITISH MEDICAL JOURNAL, 1922, vol. ii, p. 873), and since then Professor A. W. HEWLETT of the Stanford Medical School has brought out a volume of more than seven hundred pages which is the second edition of his work entitled *Pathological Physiology of Internal Diseases: Functional Pathology*.[7] It gives a clear and readable account of the present state of knowledge, and has been thoroughly revised and added to since the first edition appeared in 1916. This applies especially to the accounts of cardiac irregularities, cyanosis, the metabolic rate, which has attracted so much attention in America, vitamins, protein hypersensitiveness, endocrine diseases, and the functional aspects of organic diseases of the nervous system. It is a useful and valuable source of reference.

[7] *Pathological Physiology of Internal Diseases: Functional Pathology.* By Albion Walter Hewlett, M.D., B.S. New York and London: D. Appleton and Co. 1923. (Roy. 8vo, pp. xxxi + 765; 161 figures. 35s. net.)

INCOME TAX: EXPENSES INCURRED BY SALARIED OFFICIALS.

A CASE, Simpson *v.* Tate, which is of considerable interest to professional men holding salaried appointments, was decided in the King's Bench Division recently. Dr. John Tate, County Medical Officer, Middlesex, had claimed, and had been allowed by the local commissioners of taxes, expenses representing the cost of membership of certain professional societies. The revenue authorities appealed against the decision of the commissioners, and a statement of the facts was furnished for the basis of the legal arguments. Briefly, the statement set out that Dr. Tate was not required as a condition of his appointment to be a member of the societies, but that through his membership he received information, in periodical or other form, which enabled him to perform his duties with increased efficiency, and which in the main would not otherwise have been available to him. Dr. Tate's income was assessable, as arising from an employment, under Schedule E, and the rule under discussion, therefore, was that which authorizes the deduction of sums expended "wholly, exclusively, and necessarily in the performance of the duties of the office." That rule has already been examined in the courts on previous occasions, mainly in connexion with claims to deduct travelling expenses, and, following the general trend of those cases, Mr. Justice Rowlatt decided against Dr. Tate and in favour of the contention of the Crown. He may, however, be said to have carried the principle a step further. That principle may be briefly stated to be that the cost of travelling to the place where the duties—for example, those of a company director or a clerk to justices—are to be performed is a preliminary expense—that is, it is incurred, not *in* the performance of the duties of the office, but to put the office-holder into the position in which he may begin to perform them. Mr. Justice Rowlatt has now stated that principle in broader terms, holding that expenses incurred in qualifying the office-holder to perform his duties cannot be allowed. This would have been taken for granted as regards the original expense of qualification, representing capital outlay, but now covers "all the expenses involved in keeping a man fit for the work he is doing." That rule is laid down by a judge who has had a large experience in revenue cases, and must presumably be regarded as settled law, though on grounds of equity more than one objection could be urged. Perhaps the strongest is that it accentuates the distinction drawn between the output of a machine and that of a trained mind. The existing difference of treatment is that in the latter case no allowance for "depreciation," the gradual exhaustion of productive power, is made, though the fact, if not the probable duration, of the process is as certain. Perhaps the removal of that difference is impossible on practical grounds, but if the rule now laid down is to be fully applied the mental equipment will be deprived not only of a depreciation allowance, but also of the allowances for current expenses of maintaining efficiency. When the "earned income relief" was introduced into the system in 1907, it was represented as to some extent rectifying the

absence of any "exhaustion" allowance; at that time it represented a 25 per cent. reduction on the full rate, whereas now the difference is 10 per cent., and the present moment seems, therefore, to be a particularly unfortunate one at which to stiffen the regulations against the brain worker. In such a case as Dr. Tate's, however, the remedy appears to lie in the hands of the employing authority to some extent. In so far as the information to be derived from the societies is desirable for the proper carrying out of their officer's duties, it would seem only reasonable that the authority should pay the expense of obtaining it—even if, in practice, it is found that the best means of doing so is to pay their officer's membership subscriptions.

Nova et Vetera.

SOME OLD MEDICAL BOOKS.

A FURTHER instalment of the famous Britwell Court Library is announced for dispersal by Messrs. Sotheby day by day from March 23rd to April 3rd. It has been supposed that this would complete the realization, which has been going on for some years, but the catalogue is silent on this point, so there may yet be further portions to be sold at auction. The section to be dealt with between March 30th and April 3rd contains mainly early English works on arts and sciences, among which medicine and surgery are well represented. Hospitals are represented by the very rare "Ordre of the Hospital of S. Bartholomewes in West Smythfielde in London," 1552; by a similar volume published exactly a hundred years later; and by a book dealing with St. Bartholomew's, St. Thomas's, Bridewell, and Christ's—a reprint, published at the expense of Samuel Pepys, of the original of 1557. Among the large number of books dealing with medicine it is possible to mention only a few of more exceptional interest or rarity.

There are two copies of William Ward's translation of Alexis of Piedmont's textbook: an imperfect one of 1562, and a better copy of the 1595 issue. Colloid therapists may be interested in Francis Anthony's "Apologie or Defence of a verity heretofore pvblished concerning a medicine called Avrvm Potabile," first edition, 1616, an exceedingly rare monograph. There are three copies, all slightly different, of a pamphlet published by Robert Wyer, "at the sygne of seynt John Evangelyst, in seynt Martyns parysshe, besyde Charynge Crosse," entitled the "Antidotharius," and dealing with "bawmes, oyles, and wounde drynkes . . . vtyle and profytable for every Surgyan"; all are very rare. From the same publisher there is a translation of Arnold's (of Villa Nova) "Defence of Age," apparently differing from all other copies, and possibly therefore an unrecorded edition. Another choice volume is George Baker's ". . . Oleum Magistrale . . . the which Oyl cureth . . . Woūds, Contusiōs, Hargubush shot, Cankers, pain of the Raines, Apostumes, Hemerhoids, olde Ulcers . . ." published in the "Pultrie" in 1574.

The study of special subjects seems to have evolved earlier than is sometimes realized; for instance, there is R. Banister's "Treatise of One Hvndred and Thirteene Diseases of the Eyes, and Eye-Liddes," the second edition of which was published in 1622; a copy of this may be seen as Lot 68 in the March 30th sale; and Lot 125 is William Briggs's "Ophthalmo-graphia" (1686), a textbook of ophthalmic anatomy, including the author's new theory of vision. The familiar name of Jenner appears as the compiler (or possibly only the publisher) of a book on invalid cookery dated 1655. Andrew Borde's "Breviary of Healthe" is represented by five different editions, the earliest of 1552 and the latest of 1598. First aid, too, is another conception by no means modern, as is shown by Stephen Bradwell's "Helps for suddain accidents endangering life, by which those that liue farre from Physitions or Chirurgions may happily preserve the Life of a poore Friend or Neighbour," the very rare first edition of 1633. William Bullein seems to have been a prolific medical author: four separate treatises are contained in this sale, ranging from 1562 to 1595, and devoted mainly to the prevention of disease; one of them is the only copy known of the particular book in question. Dr. John Caius is represented by a good copy of the first edition of his "Boke or Counseill against the Disease commonly called the Sweate or Sweatynge Sicknesse"; this also is extremely rare, though it is accessible in a reprint issued by the London Sydenham Society in 1844.

From Wynkyn de Worde's press there is a copy of a medical textbook by Bishop Canutus, published about 1510; the only other copy known is in the Cambridge University Library. William Clowes is represented by three monographs, one on venereal diseases (1585) and two on gunshot wounds (1588 and 1596); and there are three editions of Thomas Cogan's "Haven of Health" (1584, 1589, and 1612). "The Castel of Helth," by Sir Thomas Elyot, is represented in five separate editions, one of them the only copy known. Erasmus of Rotterdam devoted one of his literary efforts to the "prayse and cōmēdation of the most hygh and excellent science of phisyke," as the translator renders it; the only known copy of this translation (of about 1538) is Lot 269 in the April 1st sale.

National Health Insurance practitioners may be interested to know that in 1628 William Folkingham published "Panala Medica . . . the Fruitfull and Frugall Nourse of Sound Health and long Life." The full title of a translation of one of Guy de Chauliac's works is worthy of being set out at length: "The Questyonary of Cyrurgyens, with the formulary of lytell Guydo in Cyrurgie, with the spectacles of Cyrurgyens newly added, with the fourth Boke of the Terapeutyke, or Methode curatyfe of Claude Galyen prynce of physyciens, with a Syngular treaty of the cure of vlcers"; the colophon at the end relates that the translation is "out of the Frensshe (at the instigacion and costes of the ryght honest parsone Henry Dabbe stacyoner and byblyopolyst in Paules churche yarde) by Robert Coplande of the same faculte," about 1543. Another reminder that there is nothing new under the sun is brought home by Lot 415, Irvine's "Medicina Magnetica: or the rare and wonderful Art of Curing by Sympathy," first edition, 1656; while the interest of the female sex in medicine is exemplified a few items further on in the "Choice Manuall, or Rare and Select Secrets in Physick and Chirurgery," by Elizabeth Talbot, Countess of Kent, second edition, 1653. Another early surgeon of renown is represented in a translation of "Lanfranc of Mylayne his briefe . . . now first published in the Englyshe prynte by Iohn Halle Chirurgien. An Historiall Expostvlation also against the beastly abusers, both of Chirurgerie and Physicke in our tyme," first edition, 1565.

The subject of diet is often dealt with in these early textbooks, as, for example, in Christopher Langton's "Introduction into Physicke, wyth an vniuersal dyet," about 1550. Peter Lowe's "Whole Course of Chirurgerie" (first edition, 1597) is said to be one of about six known copies; correspondence in this JOURNAL some few months ago revealed the whereabouts of several of these, previously not generally known. A valuable rarity is Thomas Moulton's "Mirrour or Glasse of Helth," about 1540, of which but one other copy (and that imperfect) is known to exist; copies of two other editions are also for sale. Another book on first aid is the "Help for the Poor . . ." by Robert Pemel, Physitian of Crane-brook in Kent, 1653, described by the auctioneers as exceedingly rare. Thomas Phaer published in 1544 his "Regiment of Lyfe," a treatise mainly on diseases of children, but containing also sections upon the plague; the only copy known of the first edition is one of those now offered, also one of 1553, thought to be of the fourth edition, and another of 1560. An early treatise on helminthology is that of W. Ramsay, 1668, whereof the first edition is represented in this collection. The extremely rare "Urinal of Physick," by Robert Recorde, of which the British Museum possesses the only other extant copy (1547), is dedicated, curiously, to the "Wardens and Company of the Surgions in London," not to the physicians, as might have been expected; including a later edition of this book, there are in all five volumes from the pen of this writer included in the sale.

So far as this collection is concerned, the earliest work devoted to midwifery seems to be that by Thomas Raynold,

1545. The "Regimen Sanitatis" of Salerno is represented in five translations, ranging from 1530 onwards. A very timely production was the monograph on the plague, published by George Thomson, M.D., in 1666, though he seems to have been more eloquent on the symptoms and the *post-mortem* anatomy of the disease than on treatment. No less than five editions are listed of the "Treasure of Poor Men," a medical textbook of unknown authorship, first published about 1526; two of these five are the only copies known of their respective editions, and two more are of the utmost rarity. There are also copies of four editions of Thomas Vicary's "Englishe Man's Treasure," the earliest of which is dated 1586; this book was the subject of careful analysis in the BRITISH MEDICAL JOURNAL of January 25th, 1896, by Dr. J. F. Payne, who showed that it is really a plagiarism of Lanfranc and Henri de Mondeville. Unique save only for a copy in the British Museum is the translation of John of Vigo's "Lytell Practyce of Medycyne," published by Robert Wyer, one of the early sixteenth century printers. Indeed, the vast number of books valuable by reason of being unique or almost so has all along been a feature of the Britwell Court Library; it is still prominent even in these later sections, where one hardly expects to meet so many items of this degree of rarity.

THE HEALTH OF THE ARMY.

ANNUAL REPORT FOR 1922.

THE Annual Report on the Health of the Army for the year 1922 has just been issued.[1] It is unusually brief, and the delay in its publication has the effect of making it lose much of its interest. It is very desirable that Sir William Leishman should, as he hopes, manage to expedite the publication of future reports during his term of office as Director-General.

In the report under review several details to which we were accustomed in previous reports have been omitted. It would be difficult, for example, from the statistical data provided in it to compare the health of the army in 1922 with other years and other armies, except in a limited degree. There is no reference to climatic conditions in commands abroad, such as Turkey, Iraq, the Rhine and Silesia, Egypt and Palestine, where troops were stationed during the year. But what we miss most is the means of comparing the incidence of sickness and of the more important diseases in 1922 with the years previous to the war, more especially as so much has been done in recent years for the prevention of enteric fever and venereal and malarial diseases. The only comparison of the kind that is possible is found in two of four charts at the end of the volume on invaliding, in connexion with which there has been a remarkable increase in 1921 and 1922. In 1921 the ratio of men discharged from the army as medically unfit was 27.5 per 1,000 of strength, and, in 1922, 19.3 per 1,000. Since the year 1899 the former ratio was only once exceeded, in 1901, and the latter only during the three years of the South African war. From 1903 the ratio had declined steadily to 8 per 1,000 during the three years previous to 1914. The only light thrown on this is in the opening paragraph of the report, where it is stated that there was a gradual elimination of the unfits who were enlisted in the transition period following the war.

As bearing on this, a report by the medical specialist at Netley is quoted, and is significant: 20 per cent. of the cases brought before the medical board there were suffering from tachycardia for which no cause, such as debilitating illnesses or prolonged service abroad, could be found except in a comparatively small number. The suggestion is made that the young man of 18 years of age, who enlisted in 1919 and 1920, was, during the war, at an impressionable age physically and mentally, and lacked parental discipline and control, so that the unwelcome discipline and irksome regularity of army life induced in his inferior nervous system the syndrome of disordered action of the heart. The majority of these youths broke down if any hard or disagreeable task had to be done. This is scarcely pleasant reading, if the medical specialist's suggestion is a correct explanation of the breakdown.

In the recruiting year, 1921-22, to which the report refers, 29,079, or 375.22 per 1,000, of the recruits examined were rejected and 2,487 discharged within six months of enlistment as medically unfit. The highest number of rejections was 433.63 per 1,000 in the Scottish Command, and the lowest 209.46 per 1,000 in the London District, where the largest number were examined. The great difference between these and other figures is probably due, to some extent at any rate, to less careful selection in some commands than in others of the men sent before the medical officer. Defective vision, under-developed chest, loss or decay of many teeth, and flat-feet were the chief causes of rejection.

The admission rate for sickness in all commands at home and abroad was 515.8 per 1,000 of an average strength of 208,079, and the death rate 3.22, as compared with 649.9 and 4.20 per 1,000 respectively in 1921. The constantly-sick rate was 41.47, as compared with 50.46 in 1921 and 32.21 in 1913, the only comparison made with any year previous to 1921. The admission rate in the United Kingdom was 376.4, and in the large garrisons of India, Egypt and Palestine, the Army of the Rhine, Iraq and Turkey, it varied between 600 and 700 per 1,000 of strength.

The chief cause of admission to hospital was venereal disease, with a ratio of 70.7 per 1,000 of strength. The rate was exceptionally high, 254.2 per 1,000, in the Army of the Rhine, where licensed brothels were put out of bounds and other extensive prophylactic measures enforced. The only other rates above 100 were 125.2 in Gibraltar, 103.6 in Malta, and 113.4 in Egypt and Palestine. The Indian rate was 84.7 and the home rate 35.4. A marked decrease is shown in the incidence of syphilis.

The next greatest cause of admission to hospital was malaria, with a rate of 65 per 1,000 of strength. Except in the small European garrison of West Africa, where the admissions for malaria amounted to 582 per 1,000 of strength, the only other rates in excess of 100 were 175.4 in India and 120.9 in South China. Very little inefficiency was caused by the enteric group of fevers, the highest admission rate being 6.3 per 1,000 in Iraq. In India it was 3 per 1,000. Unfortunately there is little or nothing said in the report about these diseases, nor any indication of the percentage of men protected by prophylactic vaccines. No other group of diseases calls for special mention.

Short summaries and statistics are given under the heading of each command. A section of the report deals with the work of the dental department, and other sections are allotted to the work of the directorates of hygiene and pathology.

[1] *Report on the Health of the Army for the Year 1922.* Volume lviii. London: H.M. Stationery Office. (8vo, pp. iv + 105; with 4 charts. Price 3s., purchasable at H.M. Stationery Office, Adastral House, Kingsway, London, in Manchester, Cardiff, Edinburgh, and through any bookseller.)

A MILK OUTBREAK OF PARATYPHOID FEVER.

THE Ministry of Health has issued a report[1] of an outbreak of milk-borne paratyphoid, by Dr. W. V. Shaw. The report is prefaced by a note by the Chief Medical Officer, Sir George Newman. The epidemic comprised 52 cases, of which 2 ended fatally. In the two weeks ended October 4th, 1924, 31 cases of enteric were notified to the Ministry by the borough medical officer, and Dr. Shaw began investigation on October 7th. Up to October 22nd 21 more cases were notified, making the total of 52 above stated. After considering and excluding other possible causes of spread, attention was concentrated on the milk supply, which was quickly proved to be responsible. The organism was *Bacillus paratyphosus* B, and the outbreak had the explosive character typical of spread by a specifically infected article of food consumed by many persons. The cases were all within the area of one milk vendor, who

[1] Report on an Outbreak of Paratyphoid Fever in the Borough of Chorley. By W. V. Shaw, O.B.E., M.D. (Report No. 30.) H.M. Stationery Office. 2d. net.

obtained his supply from eight farms outside the borough, the milk from all of them being mixed before distribution. Instead of following in detail Dr. Shaw's convincing story of his tracing of the source, it will make for brevity to state that of eight members of the household at the inculpated farm it was ultimately found that only three had escaped attack. A case of enteric fever was notified from the farm to the medical officer of health of the rural district on August 7th. He was off duty for a few days, but the acting medical officer visited on August 7th and consented to the child being nursed at home, though accommodation was available at the isolation hospital. A trained nurse was employed, her work being supplemented by two members of the household, who were also engaged on ordinary domestic duties. The milk probably became infected about the end of August. The farmer himself, who was stated to be feeble-minded and uncleanly, with clothing soiled at times with faecal matter, was definitely out of sorts with fever and diarrhoea at the beginning of September, but continued milking all through September until removed to hospital on October 7th. Certain other members of the household had similar symptoms a little later. The water supply, from a local spring, was poor in quantity, and there was no water equipment such as a milk farm ought to have, nor for due attention domestically to the cleansing of infected clothing. The farm had no dairy for storage of milk.

Concerning the action of the medical officers, Sir George Newman writes thus in his prefatory note:

"In the circumstances described by Dr. Shaw, specific infection of the milk at the farm was almost inevitable. The patient was, nevertheless, permitted to remain at home throughout the course of her illness, without any supervision on the part of officers of the local authority. No official inquiry was made to ascertain whether adequate isolation of the patient was being maintained or whether secondary cases had occurred among other members of the household.

"In brief, the mistakes in administrative procedure made in connexion with this outbreak may be summarized as follows:

1. The acting medical officer of health, who visited the farm on August 7th, did not remove the patient to hospital.

2. He did not revisit the farm to satisfy himself that his instructions regarding the isolation of the patient and disinfection of excreta, etc., were being carried out.

3. The medical officer of health, who resumed duty on August 11th, did not appreciate his responsibilities in the matter and did not visit the farm till October 1st.

4. Thus after the first visit there was a period of complete disregard between August 7th and October 1st, during which no restrictions were placed upon the milk supply. On the latter date the medical officer of health of the borough visited the farm accompanied by the medical officer of health of the rural district, because by that time suspicion had been aroused that milk from the farm was the vehicle by means of which infection was being spread in the borough.

"The facts recorded in this report emphasize the necessity for constant vigilance on the part of the officers of sanitary authorities when dealing with even an isolated case of infectious disease. In the present instance, an extensive outbreak of paratyphoid fever was caused by failure on the part of the responsible officer concerned to appreciate the danger inseparable from the retention at a dairy farm of a case of that disease.

"The importance of prompt and continuous attention being exercised by medical officers of health on the occurrence of cases of infectious disease among persons engaged in occupations associated with the production and distribution of food and milk is demonstrated by this outbreak. Neglect to take the most ordinary precautionary measures led to disaster, and I trust that the lessons to be derived from the facts recorded by Dr. Shaw will not be lost upon local authorities and others responsible for the maintenance of the public health."

This outbreak is referred to in the article on local government in rural districts at page 565 of our present issue.

RUTHERFORD MORISON TESTIMONIAL.

THE following is the second list of subscriptions to this fund, particulars of which were published in our issue of January 17th (p. 138). The amount received up to March 13th was £1,143 7s. The committee has decided to close the fund on March 31st; until that date subscriptions can be sent to the Honorary Secretary and Treasurer, Mr. R. J. Willan, M.V.O., M.S., F.R.C.S., 6, Kensington Terrace, Newcastle-upon-Tyne.

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Subscriptions promised, but amounts not specified: Dr. Modlin (Sunderland), Dr. Norris (Gateshead), Dr. W. Smith (Gateshead).

British Medical Journal.

SATURDAY, MARCH 21ST, 1925.

LOCAL GOVERNMENT IN RURAL DISTRICTS.

ELSEWHERE in this issue (p. 563) will be found a note of a remarkable report by Dr. W. V. Shaw, a medical officer of the Ministry of Health, concerning an outbreak of paratyphoid fever in a borough in Lancashire. The outbreak is clearly traced by Dr. Shaw to a milk farm in the adjoining rural district. The facts as to mismanagement of the infection at its source speak so loudly as to need no emphasizing. Suffice it to say that the article in the BRITISH MEDICAL JOURNAL of August 30th, 1924 (p. 377), on the conquest of enteric fever could never have been written if the average health administration throughout England were on anything like so low a level as it appears to have been in this particular instance and at this particular time in the rural district in question. But our present purpose is not to animadvert on the deplorable occurrence; the terms of Sir George Newman's prefatory note need no supplementing.

In concluding his note the Chief Medical Officer of the Ministry says that he trusts the lesson to be learned from the facts recorded by Dr. Shaw will not be lost upon local authorities. If that means that risk really exists of similar administrative failure in other rural districts (the possibility in boroughs seems almost inconceivable in the present day), then what Dr. Shaw has written should definitely be brought under the notice of the Royal Commission on Local Government. The report of that body is being looked forward to with much interest by all parties concerned. Presumably it will deal with the whole subject of the suitability for their work of the several classes of local health authorities in England—those in control of great cities, of county boroughs, of ordinary municipal boroughs, of urban districts, and of rural districts.

An important question certainly ought to be whether the last named group, or even the last two groups, are so constituted and administered as to afford adequate protection against invasion by infectious disease, not only of their own populations, but of neighbouring communities. A mutual obligation rests on them whether they be large or small, and the question is whether the obligation is being duly fulfilled. There are in England and Wales 663 rural districts, with an extraordinary range of population—from a few hundreds up to 76,000. Eleven of them have less than a thousand inhabitants; of districts between one and five thousand there are 117; between five and ten thousand 209; between ten and twenty thousand 370; and so on to the top of the scale, where five have between 50,000 and 76,000 inhabitants. Urban districts vary similarly. Their total is 784, and the populations range from under 1,000 to over 165,000. Thus we have the absurdity that one so-called "urban" district has under 1,000 people, and another so-called "rural" district has over 76,000.

The fact that a rural district can, if the Ministry of Health approves an application to that effect, obtain urban powers does not concern us here, but the anomalies just indicated will doubtless receive attention from the Royal Commission. What may be the smallest unit of population which can be normally relied on to furnish reasonably efficient local government in respect of public health demands consideration. Each rural and urban district, even if merely a village, has laid on its shoulders responsibility for routine administration of the Public Health Acts. But in the whole sphere of health preservation and disease control no local authority can live to itself. Indeed, it is permissible to inquire here whether there may not be a risk of neglect, alike in town and country, of this duty of mutual protection, owing to modern developments of the health work of local authorities within their own areas. Is it not possible that an officer may get so much absorbed in "welfare" work of all sorts, in respect of mothers and infants and school children, and so forth, as to be less alert in what were his primary functions a generation ago? We have no knowledge of what is done in the new directions in the rural district to which Dr. Shaw's report refers, but the general query can do no harm, and if it is everywhere needless that is all the better.

The city has a duty to endeavour to prevent invasion of the country around it by infectious disease, and the country has its duty to the town, as exemplified in its supervision and control of milk supplied for urban use. That, as it happens, is the particular question which emerges from Dr. Shaw's report. But there is no profit in dwelling on individual errors. A rural district of even 20,000 inhabitants cannot usually be expected to pay for the whole time of a medical officer of health, and, if it must make provision for itself, may have no choice but to accept such services as can be rendered by a general practitioner with or without a special diploma. In these days it can only be a man of quite exceptional capacity who finds himself able to maintain a working knowledge of the continued advances in medicine, surgery, and midwifery, and at the same time perform the ever-widening functions of a health officer. It is the system which is at fault, and we must wait for Lord Onslow's Royal Commission to submit proposals for the remedy of existing defects at the same time that it has regard to the case of those medical men who, under conditions for which they are not responsible, have struggled hitherto to carry the double burden of public health work and private practice.

DUST SAMPLING IN SOUTH AFRICAN MINES.

GOLD-MINING on the Witwatersrand has always been a dangerous trade, with its own occupational disease. In 1912 a commission reported that 32 per cent. of a group of 3,136 miners examined were affected by silicosis or tuberculosis-with-silicosis. Conditions appeared to have improved greatly by 1917, when out of 14,625 miners examined only 5.9 per cent. were found to be the subjects of tuberculo-silicosis. The report for the year ending July 31st, 1923, showed that the proportion had fallen to 3.07 per cent. The diminution in the amount of silicosis has gone hand in hand with diminution of the dust content of the air, for during recent years an intensive campaign against dust has been waged, because it has been proved that the particles of metallic dust created by the drilling machines damage the lungs and pave the way for tuberculosis.

Since silicosis has a latent period of several years before it manifests itself by any clinical signs, the data available at present do not afford any information as to whether or not fresh cases of silico-tuberculosis are arising; the cases now developing may all have been produced by conditions no longer obtaining. A further

period of years will have to pass before it can be decided whether the steps which have been taken to avoid the inhalation of metallic dust are adequate or not; but in the meantime it is important that a careful study should be made of the atmospheric conditions in the mines and the amount of dust in the air accurately registered. All these questions are gone into very fully by Dr. A. Mavrogordato in a report published by the South African Institute for Medical Research.[1] Different methods for dust sampling are in use in different parts of the world, and several of these methods are described by Dr. Mavrogordato, but he devotes most of his report to the instrument known as the konimeter, which seems to be in general use in the mines of the Witwatersrand. His experiments will be of considerable interest to sanitarians who are studying methods of measuring atmospheric dust in factories and workshops in this country, although their problems may not be identical with those which face the health officer in the gold-mining districts of South Africa.

Apart from the technical details of dust-sampling tests, two observations made by Dr. Mavrogordato in his report deserve special notice. The pathological changes grouped under the term "silicosis" do not occur apart from the presence of visible particles of dust in the tissue, or, to speak more exactly, particles visible under the microscope. The smaller ultramicroscopic particles, which, of course, are much more plentiful in the air, do not appear to be injurious to the lungs in the same way as the larger particles. Probably the lungs behave in a similar way to ordinary filters, and only retain particles above a certain size, allowing smaller particles to escape. The minimum size of particles likely to be retained is about half a micron, which, curiously, is about the size of the smallest pathogenic bacteria.

The other observation to which we wish to call attention is the question of using captive animals for the purpose of recording the dust concentration of the atmosphere. Although it appears that, in the hands experts, the various dust-sampling instruments give a reliable record of atmospheric dust, yet reading such a report as this the question naturally arises whether we are in possession of sufficient knowledge of the effects of dust on the lungs to be able to interpret these konimeter findings, and to say, for instance, that more than a certain amount of dust is dangerous and a less quantity to be disregarded. To ask this question does not mean that we fail to appreciate the value of the figures supplied by dust samplers: it is obvious that where health is at stake the most accurate records must be kept of the atmospheric conditions in such a dangerous occupation as gold-mining. But it will take many years before the figures of the dust sampler can be correlated with the incidence of silicosis, and in the meanwhile it would seem that a much quicker way of judging of the potential danger of the atmosphere would be to keep guinea-pigs or rats in cages in the mines, and to compare the duration of life under ground with the duration of life above ground, and to study the particular conditions under which such captive animals most quickly develop silicosis. Dr. Mavrogordato states that some such tests are being carried out in South African mines, the animals being used for testing atmospheric conditions in the same way that mice and small birds are used in collieries and in submarines.

[1] *The Value of the Konimeter.* Being an Investigation into the Methods and Results of Dust-Sampling as at Present Practised in the Mines of the Witwatersrand By A. Mavrogordato, M.A., M.R.C.S., L.R.C.P. Publications of the South African Institute for Medical Research. Johannesburg: No. XVII. (Cr. 4to, pp. 71; 23 figures. 5s.)

ACQUITTED—BUT FINED.

WE invite the attention of all members of the profession, whether on the panel or not—as the *Times* has invited the attention of all citizens, whether members of the profession or not—to the proceedings under the Insurance Acts reported in the SUPPLEMENT of this week (p. 122) under the title "A fatal case of diphtheria." The London Insurance Committee brought a charge of gross negligence against Dr. Z in failing to diagnose diphtheria. The Inquiry Committee found that the accused person was not negligent but attentive, that at most the accused committed an error of judgement in not recognizing before he did the supervention of diphtheria in a complicated case of tonsillitis and Vincent's angina, that the machinery which involved the inquiry should never have been put in motion, and that the respondent should receive his taxed costs. The Ministry of Health agrees that he should receive his costs, but considers that he ought to be fined £20. A similar course was taken by the Ministry in regard to the inquiry into a fatal case of appendicitis reported last week (SUPPLEMENT, p. 100). There the Ministry made no order as to costs, but imposed a fine of £10 upon the practitioner. In that case, however, the Committee of Inquiry, while finding that the charge of negligence put forward failed, expressed the view that the complainants were justified in making the representation which led to the inquiry. In transmitting the documents in the case of diphtheria upon which the report on page 122 of the SUPPLEMENT for this week is founded, the Ministry requested us to publish the text of the letter it had addressed to the London Insurance Committee, and with a slight modification, in order to omit the name of the practitioner, this has been done. In that letter it will be observed that the Minister states that he was advised that some of the symptoms from which the patient suffered should have suggested the presence of diphtheria. It is not stated by whom this advice was tendered; it does not seem to be in accord with that tendered by the Committee of Inquiry. Mr. Neville Chamberlain only came into office at about the time the proceedings were instituted, but he is technically responsible, and we shall be happy to receive from him or from any responsible representative of the Ministry any further explanations they wish to offer, and shall be prepared to publish them if of reasonable length.

ADDITIONS TO THE POISON SCHEDULE.

THE regulations governing the sale of dangerous poisons to the public were modified in 1908 by an Act of Parliament which relaxed the stringency of the previous law. That Act permitted traders other than chemists to hold a licence for the sale of arsenical and other poisonous preparations used in agriculture and horticulture, such as sheep-dips, insecticides, and weed-killers. It was not necessary that the licence holder should keep a poison book for the entry of the sale and of the signature of the buyer as a chemist had to do for poisons named in Part I of the schedule. An anomaly was thus created: the restrictive term in the schedule which had formerly read "arsenic and its preparations" now became "arsenic and its *medicinal* preparations." Thus, except under a physician's prescription, anyone buying a medicinal preparation containing arsenic must be a person known to the seller or introduced by someone known to the seller, and he must sign the poison book; but if he wanted arsenical weed-killer he could get half a hundredweight by an order on the telephone. The danger underlying this freedom was brought prominently to notice in a trial for murder by poisoning with arsenic obtained as weed-killer some two or three years ago. Resolutions were submitted to the Privy Council by the Pharmaceutical Society proposing amendment of the poison schedule in respect of this and other matters. Approval

of the resolutions submitted has been signified by an Order in Council dated February 26th, 1925. Under this order the limiting word "medicinal" again disappears from the text, and the poison book must now be signed for all purchases of material containing arsenic. Nicotine and tobacco extracts which are used as insecticides will be included in the same group as arsenic. The word "vegetable" is deleted from the text of "poisonous vegetable alkaloids." By this amendment substitutes for cocaine and other synthetic alkaloids are brought into the schedule. The active principles of digitalis and strophanthus, not being alkaloids, were not previously included with other vegetable principles among the potent articles forming Part I, where they rightly belong; these have now been added to the list. Cannabis indica has now been made a scheduled poison for the first time, and has been grouped in Part I. This was done because information was received indicating that its use as an intoxicant was spreading in this country. The word "coca" is now deleted from that provision which exempted from the regulations weak preparations containing, like some coca wines, less than 0.1 per cent. of the alkaloids. Any preparation of coca is now a poison within the meaning of the Act. Barium salts, except barium sulphate, have been added to Part II of the schedule. Poisons named in Part II may be bought without any restriction on the buyer; the only restrictions on the sale are that they must be labelled with the word "poison" and the name and address of the seller, and can only be sold by registered chemists. Barium carbonate has been introduced as a rat poison, and there have been fatal cases of poisoning from barium salts given in error. It thus became necessary to provide for the proper control of barium compounds. There would seem, however, to be a danger in exempting barium sulphate from these provisions of the Act, for it has been used as a preliminary meal for *x*-ray photography, and it is only non-poisonous when highly purified.

DIFFICULT CHILDREN—AND A PHILOSOPHER.

THE social evening at the Royal Society of Medicine on Monday last was attended by a large and distinguished company, who were received by the President, Sir StClair Thomson, in the library, where various objects of interest were exhibited. Later on Dr. H. C. Cameron gave a brief address on John Locke, the philosopher, and his views on the upbringing of children. Many parents, said Dr. Cameron, must have experienced painfully the contrariness of children—how, shepherded in one direction, they stampeded in another; how for the parent to insist was only to arouse new forces of resistance, and for him to forbid was only to provoke the spirit of disobedience. Harassed parents of the twentieth century might do worse than consult the philosopher of the seventeenth, who found time to dip his quill in the inkhorn and put on paper a picture of the child for all time. There could scarcely have been another member of the medical profession, said Dr. Cameron, who came near to Locke in his combination of philosophy and skill in practical affairs. It was Locke who restored the finances of the country after the Revolution; it was he who played a great part in the foundation of the Bank of England; it was he who introduced permanent and striking reforms in what would now be called Poor Law administration; it was he who was largely responsible for drawing up the charter for the new colony of Carolina. Probably it was his medicine which gave his philosophic mind its practical bent. His association with medicine was not merely preparatory to other and greater work, but he was throughout an ardent practitioner, and intimate with Sydenham. For many years the famous Lord Ashley, afterwards first Earl of Shaftesbury and Lord Chancellor, was his patient. Ashley had been tortured by a painful abdominal swelling, and in 1668 the all-seeing Pepys wrote that he heard "my Lord Ashley was going to have his body cut into"—in other words, Locke had determined to act. The lecturer described how Locke operated for hydatid cyst and kept the wound open by means of a silver tube, which tube had to be worn permanently, and in the scurrilous political literature of the time took the place occupied in a later day by Mr. Gladstone's tree-felling exploits or Mr. MacDonald's motor car, as a subject on which the poorest wit of the opposite faction could feel moderately sure of raising a laugh. When such a man as Locke—philosopher, political economist, financier, physician, and, apparently, no mean surgeon—turned to the study of the child the result was bound to be interesting. His ideas, invested with the genius of Rousseau, reappeared in the Frenchman's famous *Emile*. Locke's writing was cold and devoid of feeling; Rousseau's was disfigured by straining after paradox, but it pulsated with fire and enthusiasm as he proclaimed the ministry of the schoolroom to be as sacred as the ministry of the altar. But it was to Locke and not to Rousseau that those who found their children a little difficult to-day should turn for guidance. Locke tackled the difficulty of the crying child—the child with what he called the "stomachful cry," the cry intended to disturb and distress the parent. Locke saw that parents whose children cried were nearly always parents most distressed by crying children, and least able to hide from the children the fact that they were distressed. It was astonishing, said Dr. Cameron, with what certainty the child divined the weak point in its mother's heart and exploited its advantage. Much childish wickedness, said Dr. Cameron, was designed by the culprit to produce the maximum emotional response having regard to the character of the mother, nurse, or whoever had charge of the child. The children in these instances were gifted examples. The more ordinary child fell to bawling as the easiest way of provoking emotional response, giving vent to what Locke called the "stomachful cry." Locke said that children, earlier perhaps than their elders thought, were very sensible to praise and commendation. They found a pleasure in being esteemed and valued, especially by their parents; but when the child, through some excess of egotism, issued a challenge, when it did some persistent act intending to disturb and dominate, then and then only must punishment be inflicted. Locke practised restraint in the matter of punishment. "It is mere cruelty and not correction," he wrote, "to put their bodies in pain without doing their minds any good." He counselled that they be chastised, "without passion, sparely, and yet effectually." They would seldom, he added, need like punishment again. Locke had also something to say about the difficult schoolboy, who, in the oft-repeated words of the school report, "could do better," lacked concentration, would not attend. He pointed out that some boys were idle through sheer love of idleness, but with many others the more they were appealed to or threatened the more lamentable was their performance. Dr. Cameron illustrated his point by relating how a surgeon brought his boy to him one day with a sheaf of school reports couched in terms which would have squeezed the self-confidence out of a judge on the bench. He said to the father, "Suppose for a moment that it was possible to value your surgical work in terms of numbers, and that every week at your hospital the marks you had received, with those of the other surgeons, were posted up, and you were invariably at the bottom, and the governors of the hospital called you in and suggested that you return on Saturday afternoon and perform twenty hernias, with what success would your work be carried on?" Locke was wiser than some modern teachers. He wrote that it was "the usual method of tutors to endeavour to procure attention in their scholars and to fix their mind to the business in hand by rebukes and corrections if they found them ever so little

wandering. But such treatment, Locke said, might produce a quite contrary effect. Passionate words or blows filled the child's mind with terror and affrightment, leaving no room for other impressions. It was as impossible, declared the author of the *Essay on Human Understanding*, to draw fair and regular characters on a trembling mind as on a trembling paper.

SPIRITUAL HEALING: AN ECCLESIASTICAL VIEW.

THE Bishop of Durham, Dr. Hensley Henson, in his address to the Durham Diocesan Conference on Saturday, March 14th, spoke at some length about spiritual healing. He asserted that spiritual healing meant no more and no less than mental healing, that the faith which effected the marvellous healings of ecclesiastical record, and created a number of miracles about saints and shrines, need not be distinguished from suggestibility. Faith healing was common to all religions, and there was nothing distinctively Christian about the "Christian healing" described by Mr. J. M. Hickson. In the bishop's opinion, Mr. Hickson's conception of faith hardly rose to the Christian level; his notion of prayer seemed frankly pagan, and his reading of Christian history quite mistaken. On Mr. Hickson's view it would appear, said the bishop, that his healing power was coextensive with that of Jesus as described by the evangelists; but it did not appear that Mr. Hickson had claimed to have actually raised the dead, although his ability to do so was clearly implicit in his general position. Dr. Hensley Henson observed that the science of psychology was throwing a flood of light on that obscure region in which the psychical operated upon the physical. The healing of disease was the incommunicable task of the physician; and the Christian ministry was not charged, and could not seriously concern itself, with this healing. When Mr. Hickson called upon the Church to revive this part of her ministry—physical healing—which he alleged had been lying in abeyance so long, the bishops owed it to the Church to declare their deliberate judgement. Mr. Hickson, in his enthusiasm for "spiritual healing," was led to use language which implied that the cessation of a healing ministry in the Church had been calamitous to mankind. When miracles of healing were most numerous, the bishop observed, public health was least satisfactory. The wonderful advance in medical science had been conditioned throughout by its hard-won independence of theological presuppositions and ecclesiastical control. "It cannot be the duty of the Church," concluded the bishop, "deliberately to return to the beliefs and methods of a primitive and superstitious past." Bishop Hensley Henson, when Dean of Durham, sat on the committee on spiritual healing which met at Westminster under the chairmanship of Bishop Ryle, Dean of Westminster, and presented a unanimous report to the Archbishop of Canterbury in 1914. He had the opportunity, therefore, of hearing and examining the witnesses who gave evidence before that committee. Mr. Hickson was unable to appear before the committee; in fact, it does not appear that any official investigation of Mr. Hickson's cases has taken place since the British Medical Association appointed a committee to investigate in 1909. (The committee's report appeared in the SUPPLEMENT of July 15th, 1911.) According to the Bishop of Durham, Mr. Hickson admits that the testimonies to his cures fall short of what might fairly be required, so that in the absence of scientific diagnosis before the Bradford mission and examination afterwards they could not be decisive. But Dr. Hensley Henson's opportunities for hearing the claims of healers and for judging the standard of validity in evidence required by medical men have been larger than those of many of his fellow bishops. As a result of these opportunities the bishop, while professing no concern with the faith healer's gift, which, he says, Mr. Hickson appears to possess, expresses the view that Mr. Hickson would be wise to exercise the gift with caution lest he should do irreparable injury to those who sought his aid. In the bishop's opinion the sphere of conscience is pre-eminently the sphere within which the clergyman's duty is unquestionable. The modern physician can discern the nature of the psychic trouble which arrests and defeats physical treatment, and his knowledge might lead him to desire the clergyman's distinctive service. The bishop's remarks strike us as sound sense, and (if we may venture to say so) as sound doctrine, too.

HARNETT *V.* BOND AND ADAM.

THE sense of uneasiness felt by the medical profession at the result of the trial by Mr. Justice Lush and a special jury of the case of Harnett *v.* Bond and Adam has, we may hope, been lessened materially by the decision of the House of Lords, given on March 16th, that the judgement of the Court of Appeal (reversing that given in the court below) should be upheld. The case in its three stages has been reported at length in the BRITISH MEDICAL JOURNAL. The proceedings in the King's Bench Division were reported on March 8th, 1924 (p. 449 et seq.), in the Court of Appeal on April 12th, 1924 (p. 692 et seq.), and in the House of Lords on March 14th, 1925 (p. 533 et seq.), and in our present issue at page 579. We have devoted so much space to reporting the case because of the grave effect Mr. Justice Lush's judgement would have had upon the whole medical profession, and the general practitioner particularly, if it truly expressed the law on two most vital questions—first, the standard of reasonable care a doctor must exercise when acting in pursuance of the Lunacy Act, 1890, in order to bring him within the protection afforded by Section 330; and secondly, whether, if such protection be not afforded, a doctor may be made liable in damages for the whole of the period of detention of a patient whom he has certified, even though such patient has been recertified again and again by different doctors during that period. At the conclusion of the hearing of the appeal in the House of Lords on Monday the Lord Chancellor intimated that their lordships had unanimously arrived at the opinion that the judgement of the Court of Appeal was right. The medical profession, thus reassured, awaits the delivery of the reasoned judgement of their lordships with confidence that the law as it affects medical practitioners and mental patients will be clearly and succinctly stated. There is now but one question outstanding: Dr. Bond's act in detaining Mr. Harnett in the Commissioners' office in London for three hours or so was technically unlawful, in view of the fact that the jury expressly found Mr. Harnett to be sane on that date; the Court of Appeal ordered a new trial, to be confined to ascertaining the damages sustained by Mr. Harnett for those few hours' detention, and, we assume, unless the measure of damages is settled out of court, this point will come to trial in due course.

MEDICAL SOCIETY OF LONDON.

THE 152nd anniversary dinner of the Medical Society of London was held on Wednesday, March 11th, at the Grand Hotel, with the President, Dr. Eustace M. Callender, C.B.E., in the chair. There was a large gathering of Fellows and guests, and the evening was in every way a success. The toast of prosperity to the Medical Society of London was entrusted to Sir StClair Thomson, President of the Royal Society of Medicine, who in the course of a witty speech reminded his hearers that he was very much one of themselves, being a Fellow of thirty-one years' standing and a former president of their body. Since the Medical Society of London stood for the unity of medicine, it was with special pleasure that he coupled with this toast the name of Dr. Callender, and congratulated the society

on appointing for the first time a general practitioner as its president. In the course of his reply the President mentioned that the lease of 11, Chandos Street, where the Society has had its home for the past forty-five years, is now running out, and he gave some striking illustrations to enforce Sir StClair Thomson's point that the extreme specialization of to-day is injurious. In proposing the toast of the Royal Navy, the Army, and the Royal Air Force, Sir Humphry Rolleston, Bt., President of the Royal College of Physicians, spoke of the gratification felt by the profession that Sir William Leishman, a man who had devoted his whole life to science, should now be Director-General of the Army Medical Service. In his reply Surgeon Vice-Admiral Joseph Chambers, Director-General of the Medical Department of the Admiralty, whose exploits as an old international footballer had been mentioned by Sir Humphry Rolleston, said that the Navy looked on Sir Humphry as its greatest friend. Among other representatives of the services present were Air Commodore David Munro, Medical Administrator of the Royal Air Force, and Surgeon Rear-Admiral Sir Percy Bassett-Smith, R.N. (ret.). The health of the visitors was proposed in a most entertaining speech by Dr. Herbert R. Spencer, who welcomed among the guests the presidents of six daughter societies and the Master of the Apothecaries' Society. After some good-humoured banter directed at Lord Riddell, Dr. Spencer turned to Mr. Basil Hall, and, having complimented him on being President of the British Medical Association—a body to which, he said, every doctor ought to belong—invited him to interest the Association in the rebuilding of the fallen tower of Hempstead Church in Essex, where William Harvey's tomb reposes. Both Lord Riddell and Mr. Basil Hall responded in light strain, the latter acknowledging himself "a schoolfellow of Harvey," though perhaps of a rather later generation than Dr. Spencer might seem to imply. The last toast was that of the President, proposed by Sir Charters Symonds.

SUN YAT-SEN.

THE death of Sun Yat-Sen closes the story of another of those members of the medical profession who have preferred to undertake the healing of nations rather than of individuals. His life illustrated the fact, which has been so evident during the last ten years, that the gravest difficulties of the reformer are often encountered only when the first successes have been gained. The thorny problems of adjustment which spring up after a successful revolution have frequently resulted in clouding the reputation of the victor, as was the case with Sun Yat-Sen; it is never easy, therefore, for contemporary opinion to be quite just—the temptation to partiality or to hostile prejudice is too strong. Even if Sun Yat-Sen allowed dreams to become his master, as his opponents have asserted, it must be admitted that some of his visions have been realized. Since the middle of the seventeenth century the Manchu dominion of China had kept back the country from participating in the growth of civilization elsewhere in the world, and until the revolution—in the preparation of which Sun Yat-Sen played so prominent a part—this alien tyranny pressed hardly upon the vast Chinese population. Western influences, including the introduction of European medical teaching, slowly instilled an instinct of revolt against the dominant sterile obscurantism, and the connexion of Sun Yat-Sen with the medical school of Hong-Kong, of which Sir James Cantlie was dean from 1889 to 1896, was probably an important factor in the subsequent liberation of China. Sun Yat-Sen's father, a convert to Christianity, was employed as a missionary agent by the London Missionary Society; Sun Yat-Sen, who was born in 1867, became attached to the hospital of the Anglo-American Mission at Canton at the age of 18, where he developed an interest in medicine and surgery. In 1887 the College of Medicine was founded by Sir Patrick Manson and Sir James Cantlie in connexion with the Alice Memorial Hospital in Hong-Kong; it has been part of a university since 1912, and a combined conference of the Hong-Kong and China Branch of the British Medical Association and the China Medical Missionary Association was held there last January. To this college Sun Yat-Sen came when it opened, and obtained its licence to practise medicine and surgery five years later. He then began medical practice in the Portuguese colony of Macao, where was a hospital half of which was devoted to Chinese and the other half to Western methods of treatment. Sun Yat-Sen worked in this latter half, taking special interest in surgery. Whilst in Macao he had joined the Young China revolutionary party, and, on removing to Canton, he formed a branch there, beginning the fifteen years' work that was to triumph eventually in the expulsion of the Manchu dynasty. After an unsuccessful attempt to capture the Canton arsenal, Sun Yat-Sen fled to Honolulu, and thence by way of America to London. In October, 1896, he was arrested by the Chinese in London, and imprisoned in the Chinese Legation for ten days. It was a curious episode to happen in an ordinary-looking house in the West End of London, but the prisoner might easily have been deported clandestinely had not Sir James Cantlie, almost by accident, got into communication with him. The intervention of Lord Salisbury, then Prime Minister and Foreign Secretary, brought about his liberation. The life of Sun Yat-Sen was at this time largely a blend of organization work and narrow escapes, as much as £100,000 being offered at one time for his capture. He continued actively the work of preparing for the revolution which broke out in November, 1911, and he accepted the provisional presidency of the republic which followed. He retired in favour of Yuan Shi-Kai, but continued to co-operate with him for six years, after which differences of opinion led to Sun Yat-Sen's endeavour to set up a separate Government in Canton. He was later elected President of a Southern Chinese Republic, but in 1922 was expelled from Canton by a revolt. His power was re-established in the following year, and at the end of 1924 there seemed to be a possibility of fresh developments in the North of China. Sun Yat-Sen proceeded to Peking, but was shortly after incapacitated by the illness from which he has now died. When the mists and misunderstandings that still confuse the progress of China have finally lifted, it is probable that Sun Yat-Sen, in spite of his mistakes, will be recognized as one to whom his country owes deep gratitude for his active share in her liberation.

CONTAGIOUS BOVINE ABORTION AND UNDULANT FEVER.

IN a note published on July 5th, 1924, we drew attention to the close relation existing between the organisms of contagious bovine abortion and human undulant fever. At a joint meeting of three of the sections of the Royal Society of Medicine held last week, this formed the subject of a joint discussion, reported at page 554. Two points of general interest are suggested by this discussion. It indicates that contagious abortion in Southern Rhodesia is apparently transmissible to the human species; and that the undulant fever so caused differs definitely, but only slightly, from typical Mediterranean fever. So far the two diseases, although undoubtedly very similar and closely related, cannot be regarded as identical. From Mr. Bevan's remarks it seems that although contagious abortion has been present in Rhodesia for many years, it is only recently that mankind has become infected. Apparently either the bovine strain has become more virulent, the human race has become more susceptible, or some third factor, at present unknown, has entered into the problem. Now a very large number of cattle in this country eliminate

the bacillus in their milk; and, as Sir Percy Bassett-Smith pointed out, the British cannot be considered immune to the disease. The organism in this country seems to differ from the Rhodesian organism only in its pathogenicity to man. It is therefore all the more important to elucidate these unknown factors in Rhodesia, and to ascertain whether or not a low-grade undulant fever exists in this country. The fact that it has not so far been identified does not altogether preclude the possibility of its being present. The circumstances illustrate once more the great importance of continued and increased co-operation between human and comparative medicine. Although the need for these two allied subjects to come together has only of late been generally appreciated, many far-seeing men have recognized the mutual benefits which could be obtained by such an understanding. Chief among these in recent times was the late Sir Clifford Allbutt, the first president of the recently created Comparative Medicine Section of the Royal Society of Medicine. Another of the great pioneers on this work was the immortal John Hunter; it was he who was mainly responsible for the foundation of the London Veterinary College over a century ago, and, with it, the veterinary profession. There is little doubt that, but for his untimely death a few years later, the connexion between human and veterinary medicine would have been much more intimate than it now is. In this, as in so many other respects, Hunter's ideas were far in advance of his time, and it is only in recent years that steps have been taken to promote this closer association. The discussion on Malta fever shows that this connexion must not be confined to temperate climates, but that it is at least equally essential in the tropics.

VERONAL.

THE dangers attending the unrestricted sale of veronal are shown in a striking manner in a recent article in the *Journal of the American Medical Association*, where Drs. Leake and Ware[1] give an account of no fewer than sixty-one cases of veronal poisoning treated within the last two years in a single institution, the Los Angeles General Hospital. This very high figure can be accounted for by two facts—first, the unrestricted sale of veronal in California, and secondly, the presence in Los Angeles of a large class of persons of unstable character, and nearly all the persons treated were thus handicapped, and belonged to an inferior section of society. Eighteen were veronal addicts, ten were chronic alcoholics, eight were morphinists, and one a cocainist. In nineteen cases the drug was taken with suicidal intent. The patients were for the most part inordinate liars, and often denied having taken the drug. The symptoms of veronal poisoning are not very characteristic. The authors remark that often, in the absence of a true history, the nature of the poisoning could only be determined by analysis of the urine or the stomach contents. Hence they suggest that many cases of death from veronal poisoning may escape recognition. The evil, therefore, may be even greater than suggested by the figures given above. As has been said, there is no restriction on the sale of veronal in California, and it can be bought by anyone without a doctor's prescription; this state of things is held to be responsible for its popularity as a drug of addiction and a means of suicide. This failure to control the sale of veronal is not universal in the United States, for New York has followed the present English practice of forbidding the sale of veronal except on a doctor's prescription.[2] The figures given by Leake and Ware reveal clearly the evils which may arise from unrestricted sale. Veronal poisoning on the scale described above has never been known in this country, but even with our present regulations it is unnecessarily frequent, and hence additional regulations will be welcome. The editor of the *Journal of the American Medical Association* points out,[2] however, that America is considerably in advance of this country as regards another aspect of the problem. He discusses a recent article in the BRITISH MEDICAL JOURNAL[3] in which we deplored the host of unnecessary barbituric derivatives exploited under every kind of fancy name, and stated to be endowed with every virtue that any hypnotic can possess and devoid of every fault. In England there is no guide at the disposal of the medical practitioner to enable him to distinguish between a valuable new discovery and an old drug under a new name. In America the American Medical Association has furnished such a guide through its Council of Pharmacy and Chemistry, which publishes annually a volume entitled *New and Non-official Remedies*, and only admits to this list substances the utility of which has been established. Hence the practitioner who confines himself to this list can be certain that the claims of any new drug that he wishes to try have passed the scrutiny of an impartial tribunal.

[1] W. H. Leake, M.D., and E. R. Ware, M.D.: Barbital (Veronal) Poisoning, *Journ. Amer. Med. Assoc.*, 1925, 84, p. 434.
[2] Barbital and Unessential Modifications, *Journ. Amer. Med. Assoc.*, 1925, 84, p. 445.

CARE OF CRIPPLED CHILDREN.

THE Board of Education, in a recent circular, drew attention to the need of better provision for the education of physically defective children, and suggested that each local authority should now consider the preparation of a good orthopaedic scheme. It is pointed out that if such a scheme is established as part of the school medical service on the lines sketched by the Board's chief medical officer, one of the main sources of the supply of physically defective children will be closed, and the need of special schools for cripples would be correspondingly reduced. In 1919 the Central Committee for the Care of Cripples drew up the comprehensive scheme for the education, treatment, and after-care of crippled children which was adopted by the Board of Education. Although complete schemes exist in some counties, including Shropshire, Buckinghamshire, Berkshire, and Oxfordshire, the provision in most counties is either inadequate or non-existent. At a conference organized by the Central Committee which opened on March 12th the Duchess of Atholl pointed out that whereas about 106,000 children in England and Wales had been certified as physically defective, there was available accommodation for only 16,000. More hospital centres were wanted, as well as clinics for continued treatment and the adjustment of surgical appliances. In many cases it was possible to effect cure as the result of definite treatment. In the final session of this conference on March 14th, Dr. Eichholz advocated the combination of all the agencies concerned with the physically defective child in one central association, which should be in touch with all education facilities, so that restoration to physical efficiency, vocational training, and the full development of citizenship could be synchronized without interruption. Such an association would have as its objective the preparation of crippled children for active life.

INFLUENZA.

LAST week the deaths from influenza in the great towns increased slightly, from 346 to 361, and the notifications of pneumonia in England and Wales from 1,306 to 1,441. In London the mortality from influenza continues to decline; it fell from 64 to 59, and the increased mortality in the great towns as a whole is attributable to certain of them—namely, Liverpool, where the deaths increased from 7 to 26, Nottingham, an increase from 4 to 14, and Birmingham, an increase from 15 to 26. Three other large towns returned 10 or more deaths—Stoke-on-Trent (12), Croydon (10), Portsmouth (10). The increased prevalence of pneumonia is very distinct in the Midlands.

[3] BRITISH MEDICAL JOURNAL, 1925, i, 128.

ROYAL COMMISSION ON LUNACY AND MENTAL DISORDER.

BRITISH MEDICAL ASSOCIATION EVIDENCE (*continued*).

THE session of the Royal Commission on Lunacy and Mental Disorder was occupied on March 11th with further oral evidence tendered on behalf of the British Medical Association. The Memorandum of Evidence appeared in the SUPPLEMENT of January 17th (p. 29), and the report of the first hearing in the JOURNAL of January 24th (p. 170). The witnesses attending on the second occasion were Dr. R. Langdon-Down (chairman of the Association's Committee on Lunacy and Mental Disorder), Dr. J. W. Bone, Dr. C. O. Hawthorne, Mr. E. W. G. Masterman, Dr. Christine Murrell, and Sir Jenner Verrall, with Dr. C. Courtenay Lord (Assistant Medical Secretary).

Licensed Houses.

The Chairman of the Commission (the Right Hon. H. P. MACMILLAN, K.C.) said that there were some supplementary topics on which the Commission thought it desirable to have the opinion of the Association. The first of these was with regard to the position of the licensed house. This was dealt with in paragraph 54 of the Memorandum of Evidence, which stated that the Association was satisfied that there existed a desire in the community generally that many patients should be able to be treated otherwise than in public institutions. He imagined that the objection in principle which was taken in some quarters to this type of institution was that it might give rise to a possible conflict between duty and interest on the part of the management.

Dr. Langdon-Down said that he believed that was the basis of the theoretical objection sometimes urged, although as a matter of fact the reports with regard to these houses were by no means adverse to them in the main. It was really for the benefit of the patients and their friends that the Association urged the position which was set out in paragraph 54. He thought that those who put forward the view that there might be a conflict between duty and interest overlooked certain considerations which told the other way—for example, the desire to do a good thing and to do it well, and the importance of gaining and maintaining a good reputation.

The Chairman said that there did seem to be some anxiety in the public mind with regard to the profits made by the proprietors of such establishments. There was a suspicion of large profits undisclosed.

Dr. Langdon-Down replied that he was afraid he was not in a position to say anything with regard to the profits, but he did not think any suggestion of exploitation could be justified. He regretted the unavoidable absence of Dr. F. H. Edwards, who had furnished to the committee some figures showing the recovery rates in these houses, and, although he himself could not recall them, he believed they compared favourably with those relating to public institutions.

The Chairman said that Dr. Edwards might be called later. He went on to point out that in the case of patients who were rate-aided there was comparatively little motive for unnecessary detention; the only ground on which such detention had ever been suggested as possible was that a patient might have made himself extremely useful to the institution. In the licensed house, on the other hand, there was possibly more public anxiety, because the inmates were generally persons of some means, and there might be a motive on the part of the relatives to keep them there unjustifiably, and also a pecuniary interest in their detention on the part of those conducting the establishment. Positive ill treatment in such institutions was perhaps less likely than in public institutions, because the patients had means and could command better attendance, but the possibility of wrongful detention seemed to be rather greater, and behind the whole thing was a question of public policy, that money should not be made out of such circumstances.

Dr. Langdon-Down said that the present position whereby a veto existed against the setting up of new houses was illogical. If a thing was wrong it should not exist at all, even in a limited form; if it was right to have such institutions, the supply should meet the demand.

The Chairman, in reply to a remark by Sir Jenner Verrall, who instanced the parallel of the nursing home, said that the Commission was not entirely without evidence that abuses had occurred in licensed houses; that, of course, was a reason for stiffening the safeguards. The question was whether the public at large desired this kind of institution. The nursing home, of course, of which the licensed house was the counterpart in mental cases, had come to stay; but then, in the ordinary nursing home, the patient remained more or less a free agent—at all events there was no legal ingredient. He took it that it was the view of the Association that if the safeguards were adequate this type of institution should be encouraged rather than discouraged.

Dr. Langdon-Down said that that was so. He also pointed out that the attitude of the Legislature, which in 1890 was rather against licensed houses, was modified in 1913 when the Mental Deficiency Act was passed, for in that Act the wisdom of allowing institutions run for profit or from motives of semi-charity to deal with mental deficiency cases was recognized. In answer to Sir Humphry Rolleston, he added that he would not like it to go forth that the Association was desirous in any way of fortifying a monopoly.

The Chairman remarked that it was rather odd that in 1913 it should have been recognized that premises might be approved for the reception of defectives, although the institutions were run for private profit. He asked whether the witness believed that the demand for licensed houses justified their retention and encouragement, notwithstanding the risks attaching to them.

Dr. Langdon-Down replied that he thought the public might be divided into two categories: those who had relatives who wanted this care and treatment, and those who had not. The latter took a detached and *a priori* view, but the former—those who were interested in particular cases—asked for and wanted these institutions.

The Chairman thought that complaints had been made more frequently against licensed houses than against public institutions. Dr. Langdon-Down pointed out that this might be because the medical superintendent or proprietor of a licensed house was more readily "shot at." The person who had a real or fancied grievance believed himself likely to get more out of him than out of the medical superintendent of a public institution.

The Chairman said that the proposals of the Association under this heading must be linked up with its general proposal for a provisional order. A provisional order might eliminate a number of cases which would otherwise reach licensed houses, and in that way diminish their transitory population.

Functions of the Medical Superintendent.

The Chairman stated that a considerable body of evidence had come before the Commission to the effect that the medical superintendent's work as a doctor was interfered with by his administrative duties. He asked for the views of the Association.

Dr. Langdon-Down said that he did not think his committee had discussed that point. His own view was that the whole of the circumstances in which a patient was situated affected his treatment, and that there would be great difficulties in dividing up the management of an institution. The supreme authority ought to be the medical superintendent, who should be able to impose his will on every department.

The Chairman instanced the analogous case of the nursing home, where the doctor in charge did not concern himself with administration, but entrusted the matron with general oversight. The physician or surgeon at the head of a nursing home was not "cumbered with much serving," as was the head of a mental institution.

Dr. Langdon-Down pointed out the difference between a resident medical superintendent and a doctor in charge of a nursing home who lived outside. The medical superintendent, of course, if the institution was big enough, should have several departmental chiefs under him.

The Chairman said that the Commission had been informed in evidence of a medical superintendent who took such an interest in a farm attached to his institution that he developed into an admirable farmer, but to the disadvantage of his medicine. It could not be regarded as ideal if a medical superintendent had his attention diverted so largely to administrative matters that he was compelled to delegate his medical duties to sub-ordinates. It was a matter, of course, largely of temperament; some superintendents might prefer the administrative to the medical work. But he thought the Association would agree that as far as possible the medical superintendent should be able to free himself from the routine matters of administration, and, among other things, should have opportunity to acquaint himself with the advances of medical science, particularly in regard to mental disease.

Mr. Masterman said that he was medical superintendent of a Poor Law hospital with 800 beds. All the financial side was entirely out of his hands, but he agreed that it would be impossible for a medical superintendent to divorce himself wholly from responsibility for the administrative as well as for the professional side. He himself would, of course, be consulted on anything affecting structure or general arrangement in his own institution, but he would not concern himself with details.

After-care.

The Chairman next sought the opinion of the witnesses on after-care, which was discussed in paragraph 48 of the Memorandum. Two views had been laid before the Commission—one

that it was desirable to have associations, preferably of a voluntary character, to assist the patients in getting back to ordinary life; the other, that many patients, having left the institution, would desire to close the episode, and would resent people, however well intentioned, busying themselves with their affairs.

Dr. Langdon-Down thought that it would be well if those concerned in the working of the asylum took a larger share in the after-care arrangements, particularly by habitual communication with the patients' doctors after the patients had left the asylum.

Dr. Christine Murrell said that the committee had felt that patients suffered from lack of continuity. When a patient went into an institution, his doctor as a rule—not always—was asked to send a report to the medical superintendent, but it was not the custom when the patient was discharged for the medical superintendent to communicate with the patient's own practitioner.

The Chairman said that it had been impressed upon him that the transition from institutional to ordinary life must be a very critical period in the history of the individual. Dr. Langdon-Down agreed, and added that it was important that the period of actual insanity should not be regarded as a separate episode, but should be a part of the entire medical history.

Mr. Micklem asked whether, when a patient on some insurance practitioner's list went into an institution, he did not automatically drop out of insurance, and therefore had no doctor to whom to return. Dr. Bone said that such a patient did not come off the list for a considerable period—more than a year. He believed the longest period possible was one year and nine months. But when he resumed work he would immediately enter again into insurance, though whether he went on the list of the same insurance practitioner or not would be a matter for his choice.

Sir H. Rolleston asked whether the Association would support any scheme for social service connected with mental hospitals whereby cases might be visited afterwards by a friendly body of visitors, who would be to all intents and purposes members of the staff of the institution. Dr. Langdon-Down could see no objection, but the Association had not considered the matter. It would be a logical extension of after-care. Dr. Murrell begged that if the Commission made any recommendation to that effect the consent of the patient would be obtained. The patient might not want the asylum to follow him home. Given such a safeguard, the medical value of any scheme of the kind would be enormous. The Chairman agreed that the wishes of the patient should be safeguarded.

Treatment of Mental Cases at General Hospitals.

The Chairman said that on the previous day, in evidence from the Mental Hospitals Association, the question of the assimilation of the treatment of mental disease in its early stages to the treatment of tuberculosis or venereal disease at public clinics had been discussed. At present these other diseases were dealt with in special premises, and, in the case of tuberculosis, in-patients as well as out-patients were provided for. Would it be possible for similar clinics to be established for mental disease short of insanity? The theory was simple, but the practice might be difficult.

Dr. Langdon-Down said that he thought that some such provision for mental cases might be linked up very advantageously with the teaching hospitals. Opportunities would thereby be afforded for the study of mental disorder by those entering the practice of medicine; such a plan, moreover, would help to prevent the unjustifiable severance of psychiatry from medicine in general.

The Chairman said that the whole conception was most attractive, but any such arrangement must take one of three forms: (1) a department of an existing asylum; (2) a branch of a general hospital; or (3) a separate institution similar to the clinics already set up for dealing with tuberculosis and venereal diseases. He gathered that the second of these proposals was the one favoured by the witnesses, but it was one which might encounter opposition from those conducting general hospitals; the introduction of these cases might be resented. Dr. Langdon-Down said that he thought the tendency now was to encourage psychiatric departments in general hospitals.

Mr. Micklem asked whether it was contemplated that cases should go to these clinics under temporary orders. The Chairman said that he did not see how such a department could be conducted unless some form of restraint was available, and this would involve registration and the whole apparatus over again, and would be resented by the management of the general hospital.

Dr. Langdon-Down described the psychiatric clinic of Professor Winkler, at Utrecht, to which patients came voluntarily and yet were detainable. In reply to the Chairman, who asked how the carrying on of such an institution was reconciled with the legal aspect, Dr. Langdon-Down said that he was afraid things were done in Utrecht which might not have the approval of the legal authorities in this country, but he promised to obtain for the Chairman a copy of an address which Professor Winkler delivered not long ago to the Medico-Psychological Association, and which the Chairman said he would read with great interest.

Dr. Langdon-Down added that he wished to make one emendation of his oral evidence given on the former occasion. He had stated that it was unfortunate that there were not institutions for the treatment of mental illness short of insanity. That was a hasty generalization, and, of course, there were a few such institutions, notably the Lady Chichester Hospital at Hove, the Maudsley Hospital, and an institution in Edinburgh.

Mr. Masterman pointed out that Maudsley Hospital was in very close association with King's College Hospital and had the services of its staff when required. That, indeed, was a model of what might be done. Maudsley was not under the control of King's College, but was associated with it. The Chairman said that he feared that when once a hospital was given a special name it became in the popular mind an asylum. Mr. Masterman said that he could testify, as one living in the neighbourhood, that Maudsley in the minds of the people round about had a quite distinct signification, apart altogether from that of an asylum.

Protection for Certifying Doctor.

Dr. Hawthorne again raised a matter discussed on the previous occasion in connexion with the claim that the certifying practitioner should enjoy the immunities of a witness in a court of law. One of the members of the Commission had suggested that there was a parallel between a lunacy certificate and a certificate given in a case of diphtheria or small-pox, and that as a medical certifier could not avoid a legal responsibility in the case of the latter it was reasonable to infer a similar responsibility in the case of the former. But there were two respects in which these two classes of certificates differed the one from the other. In diphtheria, for example, the doctor offered himself to the community as one who was ready and willing to certify and to do whatever was necessary in the case. It might be said that it was the same in lunacy, but there was a difference. The doctor undertook with great reluctance to certify a patient as a lunatic. The total amount of this work which fell to the individual doctor in the course of his career was very small, and the remuneration negligible. In the case of these lunacy certificates, the witness submitted, the doctor acted as a public servant, whereas in the case of certificates given in diphtheria or small-pox he acted in the proper and ordinary practice of his profession. The second difference was that in a certificate of a certifiable disease the doctor expressed an opinion only, he did not state the facts upon which he founded that opinion; in lunacy certificates the facts had to be stated to the judicial authority, who had the right to accept them or challenge them, to act upon them or to decline to act upon them. Therefore the certificate had a different quality, and the analogy drawn by a member of the Commission at the last hearing was fallacious.

The Chairman said that he gathered that the Association contended that the immunity of the certifying doctor should be as complete as the immunity of a witness testifying in a court of law. But it must be remembered that the doctor was a professional man who held himself out as able to perform certain things in which he was skilled, and he must be judged by that criterion. If, therefore, it could be shown that he had performed his function carelessly or in bad faith he ought not to be protected. If a doctor made a malicious statement on a certificate—a statement perhaps not on a professional but on some collateral matter—was he to be protected?

Dr. Hawthorne said that no one asked for any protection for a doctor making false statements. The Chairman instanced the hypothetical case of a doctor giving a certificate while drunk. If the legislative protection which the Association wanted were accorded, he would be absolutely safe. Dr. Hawthorne thought it difficult to imagine a case of a doctor who, being drunk, was yet able to construct a certificate commending itself to the judicial authority.

Some discussion took place on the question of onus of proof, and the Chairman gave an account of the legal procedure in Scotland, which he considered more favourable than the English system to the doctor against whom a complaint was made with regard to a certificate. He went on to say that it was asking a great deal of the Commission to recommend that the certifying doctor should be placed in the position of a witness giving oral testimony in a court. Even such a witness was not entirely protected. If he committed perjury he was subject to legal process.

Dr. Hawthorne said again that he did not ask that the doctor should be free from responsibility for perjured statements.

The Chairman pointed out that the whole procedure of certification was administrative rather than judicial. He agreed that it was very undesirable that members of the profession should feel that they were performing their work under the possible menace of legal action, to answer which, even though they were found guiltless, might involve them in severe financial loss. But while anxious to give every encouragement to the profession, he felt there must be preserved in the law the right of action where action ought to lie.

Sir Jenner Verrall spoke of the risk of doctors not doing their duty unless some increased protection were accorded.

Dr. Murrell asked whether it would not be possible to increase the responsibility of the judicial authority. If the risk of the medical certifier could not be lessened, could not the judicial authority at least be associated with the risk? The Chairman said that the judicial authority was not exempt from possible action, though he agreed that, generally speaking, it was against the medical certifier that action was taken.

This concluded the evidence of the British Medical Association, and the witnesses were thanked for the assistance they had given to the Commission.

South Australia.

[FROM OUR OWN CORRESPONDENT.]

The British Medical Association.

DR. RIDDELL of Kapunda retired from office as President of the South Australian Branch of the British Medical Association last June, and was succeeded by Dr. Steele Scott of Malvern. The outstanding feature, perhaps, of the year's scientific work was the Listerian Oration delivered by Mr. F. A. Hadley, F.R.C.S., of Perth, Western Australia, on "Deformities of the alimentary tract." A medal has now been struck, which has been presented to all who have delivered this oration in the past. In addition to the medal, the interest from a small endowment fund which has been established will be handed to the orator in future to help to defray his travelling expenses.

Medical Politics.

Our fairly satisfactory Medical Act was recently in danger of being wrecked by an amending bill introduced by an irresponsible member of the lower house. He proposed to allow the registration in South Australia of such men as had been medical officers of an armed transport during the war and had been discharged with a good character after a year's service. There have been instances recently in which persons have been registered in one of the Australian States on the strength of American diplomas, and it has afterwards been ascertained either that they did not hold such diploma or that it was not of a character to warrant registration. All the Labour members who spoke seemed to think that the British Medical Association was at the bottom of some tyrannical objection to registration. The sensible view taken by Mr. Denny, the Attorney-General, in opposing this private member's bill probably influenced the Labour cabinet to vote against it, and its second reading was lost by 18 to 15 votes.

The Medical School.

Dr. Cleland's chair of pathology is transformed into the "Marks Professorship," and in addition a Keith Sheridan Fellowship has been created with the bequests mentioned in my last letter. Professor Brailsford Robertson will probably direct his energies more particularly to his favourite study of biochemistry, and a Marks lecturer on applied physiology will be associated with the Sheridan Fellowship. Preventive medicine has suffered a great loss by the death of Dr. Thomas Borthwick, the health officer for the city of Adelaide, the first man in South Australia to devote himself exclusively to health work. His successor is Dr. Angas Johnson, a member of the corporation. At the hospital Dr. Darcy Cowan has been promoted to full physicianship, and two vacancies in the out-patient department have been filled by the appointment of Drs. Guy Lendon and Southwood. The lectureships on obstetrics and gynaecology have been reunited, after more than twenty years' divorce, in the person of Dr. T. G. Wilson, Dr. A. A. Lendon, the last of the original staff, having resigned the former of the two posts.

Royal Society.

The last three presidents of the local Royal Society have all been medical graduates. When Sir Joseph Verco declined re-election after holding office for about eighteen years he was succeeded by our local authority on orchids, Dr. R. S. Rogers. Dr. Pulleine, who is an omnivorous scientist, has now completed a year in office, and has given way to the professor of geology, Sir Douglas Mawson, of Antarctic expedition fame.

England and Wales.

LIVERPOOL VOLUNTARY HOSPITALS.

Royal Southern Hospital.

AT the annual meeting of the Royal Southern Hospital on March 3rd, when the Right Hon. the Lord Mayor presided, it was stated that the effort to establish a co-operative contributory scheme in Liverpool, on lines which have brought relief to hospitals in other large centres, is making satisfactory progress and would receive the speaker's whole-hearted support. The financial position of the hospital is a matter of grave concern to the committee; not only is it living considerably above its income, but has an overdraft of £20,000. The cost of maintenance showed an increase during the year of £2,164, due chiefly to the increased cost of provisions, surgical and dispensary items, and salaries and wages. The total number of in-patients in 1924 was 2,673, as compared with 2,472 in 1923; the total number of out-patients was 21,922 with 88,780 attendances, showing an increase of 2,956 and 11,078 respectively over the corresponding figures in 1923. The important event of the year was the opening of the electro-therapeutic and massage department last October to commemorate the jubilee of the hospital (1922). There is now a special clinic for heart diseases equipped with an electro-cardiograph. It was reported that the Newbolt Memorial Fund in memory of the late Mr. G. P. Newbolt, F.R.C.S., amounted to £1,264, and was being utilized to enlarge the *x*-ray department, in which he took a keen interest during the whole period of his twenty-six years' service. The committee records in its annual report with profound regret the loss of Mr. Newbolt, and adds its sincere testimony and appreciation of his great loyalty and devotion to the hospital.

The Liverpool Royal Infirmary.

The annual meeting of the Royal Infirmary, Liverpool, took place on March 13th at the infirmary, under the presidency of Dr. T. R. Glynn, consulting physician and emeritus professor of medicine. The *x*-ray department has been extended and a new ward—the Larrinaga maternity ward—in connexion with the gynaecological department is to be ready in the near future. The number of in-patients in 1924 was 5,069, and exceeded the admissions of the previous year by 289. The number of out-patient attendances amounted to 174,795, and the number of new patients showed an increase of 2,017 over that in 1923. The financial statement showed that the expenditure was £7,714 above the annual income, and that the accumulated deficit on the general maintenance account amounted to £24,210. The new nurses' home is badly in want of funds, and £25,000 is required to complete the second portion of the building. During the past year Dr. R. J. M. Buchanan, honorary physician for twenty-three years, and Mr. W. Thelwall Thomas, honorary surgeon for thirty-three years, have retired and were appointed consulting physician and consulting surgeon respectively by the meeting, which recorded its appreciation of their services and devotion to the hospital.

MAUDSLEY HOSPITAL LECTURES.

The second part of the eighth course of lectures on psychological medicine at the Maudsley Hospital will commence early in April. Dr. F. C. Shrubsall will deliver eight lectures on the practical aspect of mental deficiency on Wednesday afternoons, beginning April 1st, and eight lectures on morbid psychology will be given by Dr. E. Mapother on Tuesday afternoons from April 7th. On

Monday afternoons, from May 4th, Dr. Bernard Hart will deal with the psychoneuroses, and on Tuesday afternoons six lectures on the pathology of mental diseases will be given by Sir Frederick Mott, beginning on May 5th. Six demonstrations in clinical psychiatry will be given on Wednesday afternoons, commencing May 6th, by Dr. E. Mapother, and twelve clinical demonstrations in neurology by Sir Frederick Mott and Dr. F. L. Golla on Thursday afternoons from April 2nd. Lectures on crime and insanity by Dr. W. C. Sullivan, and on the legal relationships of insanity and treatment, will be given on dates to be announced later. Further information may be obtained from the Director of the Pathological Laboratory, Maudsley Hospital, Denmark Hill, S.E.5.

LONDON CONFERENCE ON VENEREAL DISEASE.

A conference of representatives of London local authorities and propaganda committees associated with the venereal diseases scheme for London was held at the County Hall on March 16th under the auspices of the National Council for Combating Venereal Diseases. Mr. E. B. Turner, F.R.C.S., who presided, pointed out the greatness of the field covered by the London scheme, embracing as it did a population of eight million. During 1924 the number of meetings in furtherance of the anti-venereal propaganda was 258, and the number of people directly reached was nearly 37,000—a small figure in relation to the population of London, but including many people of local influence, such as borough councillors, school teachers, and church workers. Dr. Letitia Fairfield then gave an address on the working of the London scheme. The scheme, she said, involved arrangements with eighteen general and ten special hospitals, and the value of the anti-venereal work done in London was enormously assisted by the interest of the teaching schools, which ensured that the medical practitioners of the future would know a great deal more about venereal disease than the medical profession had known in the past. At St. Thomas's, Guy's, St. Paul's, the Royal Free Hospital for Women, and the Lock Hospitals the clinics were now open for practically the whole day, so that there was no excuse on the part of patients that their professional or industrial occupations deterred them from attending. Seven hostels for women had been established, all of them in connexion with general hospitals. A gratifying feature was the extent to which laboratory facilities were being used by general practitioners as well as public health officers. Dr. Mary Scharlieb spoke on the organization and work of local committees. The happiest method of propaganda, she said, was by a judicious mixture of voluntary and official work. When one found in any borough public health authorities acting on their own, without co-operation with voluntary workers, there was a lack of intimate touch with the problem. Officialdom without its voluntary partner was officialdom partially paralysed. Professor H. R. Kenwood gave an address on the work of the National Council. Drs. Dorothy Hare and Margaret Rorke spoke on the women's hostels, and there was a good deal of general discussion in the way of an interchange of experiences between representatives of different boroughs, chiefly on the question of propaganda.

Scotland.

ODONTO-CHIRURGICAL SOCIETY OF SCOTLAND.

THE annual meeting of the Odonto-Chirurgical Society of Scotland was held in the Dental Hospital, Edinburgh, on March 6th, under the presidency of Dr. H. Gordon Campbell. A paper on immediate and remote effects of infections of the mouth was read by Dr. J. E. McCartney, lecturer on bacteriology in the University of Edinburgh. It was possible, he said, in an average mouth to find anything from 100 to 150 different organisms. Many of these, no doubt, were merely transient residents, having been introduced by food, but others were more permanent. The total number of organisms in the mouth was in the main determined by the cleanliness of the patient and the variety of food taken; starchy foods were those most likely to encourage the growth of organisms. Rheumatic troubles would be better treated at the seat of origin than by local counter-irritants, and treatment should be carried out before the infection was well advanced, for then the damage had been done. Another point he emphasized was the futility of mouth-washes, which did not produce an effect beyond the surface of the gums, while infection needed more radical treatment.

GLASGOW VETERINARY COLLEGE.

The Royal Faculty of Physicians and Surgeons of Glasgow has forwarded to the Secretary for Scotland a resolution regarding the proposal of the Board of Agriculture and the Government to withdraw grants from the Glasgow Veterinary College. The opinion is expressed that the continuation, maintenance, and advancement of the college as a centre of teaching and research are urgently desirable, and it is maintained that Glasgow is the most convenient and suitable centre for students drawn from an area embracing one-half the entire population of Scotland. It is urged further that the success of the Glasgow College, both in the number and quality of its students, fully justifies its continuance, and that its work in relation to the diseases of man and the lower animals is of vital importance to medical science and to public health, with both of which Glasgow has a profound and intimate concern, and for both of which the whole country is calling for encouragement from the Government. On these grounds the Faculty regrets the proposal to concentrate the teaching of veterinary medicine in one centre in Scotland which is involved in the proposed withdrawal of the grant-in-aid to the Glasgow College.

GLASGOW ROYAL HOSPITAL FOR SICK CHILDREN.

Sir Hector Cameron presided over the forty-second annual general meeting of the Governors of the Royal Hospital for Sick Children, Glasgow. The report for 1924 showed that over 6,000 children had been treated in the wards, while at the hospital and at the dispensary in West Graham Street there had been altogether 77,973 attendances of out-patients. The expenditure of the hospital for the year had been £30,177, as compared with £29,902 in 1923. The chairman, in moving the adoption of the report, expressed the thanks of the meeting to those persons who had responded so generously to the directors' appeal for £75,000 required to meet the cost of additions and extensions. In answer to this appeal £71,000 had been contributed within less than twelve months, and a further £1,000 received that morning left only £3,000 to make up the amount which had been originally required. The chairman declared that when the extensions were completed the hospital would rank as one of the finest and best equipped institutions of its kind in the country.

THE PERMANENT CARE OF THE FEEBLE-MINDED.

A lecture was delivered at a meeting of the Edinburgh Women Citizens' Association on March 3rd, when Lady Leslie Mackenzie was in the chair, by Dr. J. Keay, medical superintendent of Bangour Asylum, who estimated that there were in Scotland at the present time 19,686 mentally defective persons; many of them were constantly drifting in and out of poor-houses, reformatories, asylums, and similar institutions. Many others were at large, and the great majority were in urgent need of protection, of training in industrial employment, and of control to prevent the propagation of mentally defective children. Feeble-minded women were nearly twice as prolific as normal females, and, while the birth rate of the normal population had steadily declined since 1878, that of the feeble-minded had increased. The only practical method of dealing with this problem was to segregate them permanently in industrial colonies. Here they would be happy, instead of, as at present, being trained to the age of 16 years and then turned adrift to sink or swim, just at the period of life when training was most essential. No civilized country could afford to neglect this matter.

Ireland.

FREE STATE ELECTIONS.

BY-ELECTIONS in nine Free State constituencies were held last week. Among the successful candidates was Dr. Thomas Hennessy, Irish Medical Secretary of the British Medical Association. There appear to have been three parties at these elections—Government, Republican, and Labour. Dr. Thomas Hennessy was returned for Dublin (South City) as a Government candidate by 24,075 votes, against 13,900 for the Republican candidate, and 4,237 for the Labour candidate.

LOCAL GOVERNMENT AND PUBLIC HEALTH BILL (IRISH FREE STATE).

During the passage of the Local Government Bill through the Senate an amendment making it mandatory on coroners to hold an inquest on a body where there was reasonable ground to believe that death might have been due to causes other than common illness was carried. An amendment was moved to the effect that the county medical officer of health should act as local government inspector in connexion with the administration of county hospitals, county homes, mental hospitals, and dispensaries in the areas assigned to him. At present these institutions are inspected by a staff of some seventeen lay inspectors and ten medical inspectors. Under the bill there would be a new office, county officer of health, and the amendment proposed that he should act as local government inspector. It was urged by senators that economy to the danger of public health was not wise, and the Minister of Local Government and Public Health stated that he could not accept the amendment. He mentioned that his department, which had been taken over from the British, with all its functions, now showed a saving of £15,000 a year. He considered it would be wrong to push untried men in to the position of local tsars over the various public health areas. The amendment was withdrawn. A new Government section was proposed, providing that at least one of the sanitary officers appointed by any sanitary authority under the provisions of the Public Health Act, 1878, should be a duly qualified veterinary surgeon, and that his duties should include inspection and examination of meat, inspection of cattle and dairies, and other similar duties. Sir John Keane said that since the question was raised members of the veterinary profession had been very busy, and seemed to be rather apprehensive that the House was inclined to encroach on their professional duties. What the House objected to was these gentlemen overlapping under different Acts. The Minister of Local Government and Public Health said it was the intention at first to have one veterinary officer to carry out all the co-ordinated duties in the county. Though one veterinary officer would not be able to take on all the duty of the public health district, it would be better to have one than none at all. The section was carried.

VITAL STATISTICS OF NORTHERN IRELAND.

During the quarter ending December 31st, 1924, 6,474 births were registered in the twenty-seven superintendent registrars' districts in Northern Ireland, the number being equivalent to an annual birth rate of 20.2 per 1,000 of the estimated population, as compared with the corresponding figures of 17.5 for England and Wales and 20.7 for Scotland. The deaths registered during the quarter numbered 4,592, representing an annual rate of 14.3 per 1,000, as compared with 11.1 per 1,000 for England and Wales and 13.7 per 1,000 for Scotland. The birth rate was 1.7 below the rate for the corresponding quarter of 1923, and 1 below the average rate of the fourth quarters of the ten years 1914 to 1923. The death rate was 0.3 below the rate of the corresponding quarter of 1923, and 2.1 below the average rate for the fourth quarters of the ten years 1914 to 1923. Of the total number of deaths registered, 17 per cent. occurred in public institutions; another 11.8 per cent. were uncertified, there having been neither a medical attendant during the last illness nor an inquest held by a coroner. The equivalent birth rate for the quarter under review of the county boroughs and urban districts, which contained nearly half the total population of Northern Ireland, was 25.8 per 1,000 of the population, the birth rate for the remainder of Northern Ireland being 16.2 per 1,000. The annual rate represented by the number of deaths from all causes in the county boroughs and urban districts during the quarter was 16.4 per 1,000 of the population, and the corresponding rate for the remainder of Northern Ireland was 13.1 per 1,000. The urban mortality from the principal epidemic diseases was equivalent to an annual rate of 1.2 per 1,000 of the population, the corresponding death rate for the remainder of Northern Ireland being 0.4 per 1,000.

VACCINATION DEFAULTERS IN DUBLIN.

Mr. Collins, district justice, recently imposed nominal fines of 6d., with £1 1s. costs in each case, on a number of persons who were prosecuted by the Dublin Union Commissioners for failing to have their children vaccinated. Mr. J. Crowley, for the Commissioners, said there were about 7,000 defaulters in the city, and the Commissioners were determined to have the law enforced. One of the defendants said, in his defence, that he looked upon vaccination as an act of cruelty, and he would be going against his conscience to have his child vaccinated. He felt it was a criminal law.

Medical Notes in Parliament.

[FROM OUR PARLIAMENTARY CORRESPONDENT.]

THE House of Commons has this week discussed the Army and Navy Estimates. In the former debate references were made to the diminished inflow of medical men to the R.A.M.C. The Medical Committee of the House will meet next Monday, and will discuss certain proposed bills of medical interest, including probably a Births and Deaths Registration Bill. The Nursing Homes Registration Bill introduced by Mr. G. Hurst has been printed. The text does not incorporate all the results of recent negotiations between the promoters of the bill and the Ministry of Health, but this, it is stated, is due merely to exigencies of time.

The Performing Animals Bill and the Birds Protection Bill both passed through Grand Committee on March 17th without amendment, and the Government is likely to help their progress towards the Statute Book. On the same day the House of Lords gave a second reading to Lord Carson's bill for the regulation of moneylenders, and agreed that it, together with a bill for a similar purpose which has received a second reading in the Commons, should be sent to a joint committee of both Houses.

BILLS.

Therapeutic Substances Bill.

The House of Lords, on March 17th, passed the Therapeutic Substances Bill through Committee and Report without amendment. During the Committee stage Earl Russell said that Clause 2, dealing with the restrictions on the manufacture of therapeutic substances, made no provision for the cost of examination, and asked whether these substances were to be tested by a voluntary committee or by whole-time public officers, and whether the manufacturers of the products were to pay. The Marquess of Salisbury, the Minister in charge of the bill, said the routine tests would be done at the expense of the manufacturers, who would provide samples free of charge. In special tests by the Medical Research Council the expense would be provided out of parliamentary votes. The number of manufacturers was too small to justify the introduction of fees, but if too large a charge were thrown on the Vote for the Medical Research Council the House of Commons would take note of it, as the tests were in the interest of the public.

On Clause 3, imposing restrictions on the importation of therapeutic substances, Viscount Haldane said that certain substances would be imported in small quantities for purposes of research by men of science, and he asked whether a distinguished physiologist, for example, might be placed on a list and enabled to obtain supplies with a minimum of trouble. Lord Salisbury said it was not proposed that licences should be given for special parcels, but to individuals or to institutions, enabling them to import at will for research. Information that such licences had been issued would be passed to the Customs. All the regulations would be laid before Parliament. Lord Haldane said the explanation was satisfactory.

Mental Deficiency Bill.

Sir Leslie Scott introduced, on March 17th, a Mental Deficiency Amendment Bill, described as a bill to amend Section 7 of the Mental Deficiency Act, 1913, for the purpose of enabling a defective to be removed from an institution for the purpose of being placed under guardianship. He said it was intended to

repair an omission in the Act of 1913, which provided for the transfer of a mentally deficient person from guardianship to an institution, but not for the reverse process. After treatment of a defective in an institution it was sometimes found that such an improvement had taken place that transfer to guardianship was desirable. The bill provided that the transfer could be made under the order of the judicial authority which originally made the order, or under another judicial authority, and by the same procedure as in the original process. As chairman of the Central Association of Mental Welfare, he knew that this small change would be of great advantage. The bill, which was backed by Mr. H. A. L. Fisher, Sir Henry Slesser, Dr. Fremantle, and Mr. G. Hurst, was read a first time without discussion or division.

Summer Time Bill.

The second reading of the Summer Time Bill was moved, on March 13th, by Colonel Lambert Ward, and after the Home Secretary had announced that in the event of the bill receiving a second reading it would be taken up by the Government and given facilities for passing through the House, it was read a second time by 289 to 63.

In seconding the motion, Mr. Cooper Rawson said that the bill would be of great benefit to the health of the people, and urged that an argument for the bill was that hospitals would save the money now spent on artificial sunlight, as it would be possible to get the natural sunlight out of doors.

Dr. Little said medicine was on the eve of gaining extensions of knowledge of the properties of sunlight. Members could visit any of the light departments of the great London hospitals and see the transformation of a wreck of humanity into a reasonably healthy person as a result of sitting for half an hour, three times a week, in front of the very feeble imitation of sunshine which came from a carbon arc lamp. The importance of sunlight and fresh air could not be overestimated, and both would be increased to large numbers of people by this bill; he wished the House of Commons itself could receive more sunlight and fresh air than it did. The psychological effect of sunlight was very great. Amazing influence on nutrition was exercised by the application of sunshine and fresh air.

Sir Kingsley Wood, for the Ministry of Health, read a letter from the London County Council, dated March 13th, which contained the following passage: "At one time it was alleged that summer time had a detrimental effect on the health of children and young persons, by tending to reduce the hours of rest, but the Council, in 1921, after consulting the school medical staff and the authorities of elementary, secondary, and continuation schools, and evening institutes, came to the opinion that the consensus of expert educational opinion was that summer time was an advantage to school children and to young persons continuing their education beyond the school age." That was the considered opinion of the greatest educational authority in the world.

Mr. Rhys Davies asserted that medical evidence was definitely in favour of more sun and daylight.

Mr. Lunn, on the other hand, said that if members lived among the people they would see that in consequence of summer time children did not get the sleep they ought to have. Most working-class mothers were opposed to it. Other members supported this view.

The Home Secretary said that the British Medical Association had expressed regret that summer time had been curtailed last year, and declared that it was beneficial to health and efficiency. The council of the Society of Medical Officers of Health recently passed a resolution in favour of summer time for six months each year, and at a deputation in favour of the bill, which he received at the beginning of the week, representative medical men had spoken. Mr. E. B. Turner, who represented the British Medical Association, alleged that it was quite false to say that summer time was bad for children. The additional fresh air which summer time gave the children was a definite benefit to their health, and they were able to see more of their fathers. The county medical officer of Hants, Dr. R. A. Lyster, was on the same deputation, and declared that medical officers of health and school medical officers throughout the country were enthusiastic supporters of summer time because of the evidence of its benefit to health. The Home Secretary claimed that these two strong statements from representatives of the British Medical Association and of the medical officers of health disposed of the objections which had been made about the children.

Pensions.

Instructions are being issued to the heads of the various pensions areas to continue the practice of giving sessional work on medical boards to medical officers discharged from the medical staff employed by the Ministry.

The convalescent treatment and training centres at Barry and Blackpool were closed during 1924, and the centre at Epsom will be closed this month. The centre at Birmingham is still required, and no date can at present be assigned for its closing.

Colonel Sir Arthur Holbrook, on March 12th, asked the Minister of Pensions whether he would consider the grant of a bonus to ex-service medical officers now in the employ of the Ministry and under notice of discharge in cases where these officers had five years' service or more under the Ministry, seeing that those to be retained were to receive a rise of pay of £50 per annum in lieu of a bonus based on the number of years served. Viscount Curzon replied that it was not customary for temporary civil servants to be paid a bonus on discharge, and the Minister would not feel justified in urging the Chancellor of the Exchequer to grant a special privilege to the temporary medical officers of the Ministry of Pensions. The increase in the pay of the medical officers retained was not granted in lieu of any such bonus. It had been decided upon as part of a general scheme for the future remuneration of the medical officers of the Ministry, which had been framed after consultation with their staff association.

Mr. Percy Harris asked whether many of these medical officers had not given many years' efficient medical service to the Ministry, and whether it was fair or reasonable, when their services were dispensed with because of decreased work, to throw them out of employment and give them no bonus or gratuity to enable them to find other work. No answer was returned.

Viscount Curzon, on March 12th, stated that a man who, prior to discharge, was found by the military medical board to be suffering from a permanent disability of more than 20 per cent. aggravated by service, would not necessarily be given a pension for life. The worsening by service of the man's pre-existing ailment or injury might be only temporary, and if it were not found to persist the pension could not be continued. He stated also that, subject to the conditions prescribed under the terms of the Royal Warrant, the judgement on which a grant of constant attendance allowance was made to a man was that of his medical advisers.

Viscount Curzon has stated in reply to questions that, although neurasthenic patients undergoing a specific course of treatment were retained in an institution for that purpose, it was not the intention of the Ministry that cases should remain indefinitely or unnecessarily in an institution, and where they could suitably be dealt with by discharge to their homes with an appropriate pension this course was adopted.

Patent Medicines.—Mr. Groves asked the Minister of Health, on March 11th, whether he had considered the conditions under which patent medicines were manufactured and sold in this country as compared with other countries; whether he was aware that ill informed persons were attracted by advertisements and thereby failed to obtain proper medical attention; and what steps he could take to ensure public health and safety in this respect. Sir Kingsley Wood said that the question of statutory regulation of the conditions under which patent medicines were advertised was under consideration, but unless a substantial measure of agreement could be secured the Minister of Health did not think it would be possible to introduce legislation in the present session.

Medical Attendance on Unemployed.—Mr. Groves, on March 11th, asked the Minister of Health if he had any information on the health of the men and women who had been out of work for two years and upwards, and whether, as such persons might be quite outside the national health insurance benefits, the Minister had considered the issue of instructions to boards of guardians to arrange special medical attention to them. Sir Kingsley Wood, answering for the Minister, said the Prolongation of Insurance Act, 1921, was still in force, and in view of this Act the Ministry of Health had not thought it necessary to make any special inquiries as to the health of unemployed persons. The Minister was not aware that there was any need for the issue of such instructions as Mr. Groves suggested. Mr. Groves asserted that in West Ham a large number of people were outside the scope of the national health insurance scheme, but Sir Kingsley Wood replied that the district medical service was available to them, as to the rest of the community.

Influenza.—Sir A. Butt, on March 12th, asked the Minister of Health the number of deaths caused by influenza or its complications in London during January and February, 1925; whether these deaths had any correlation with age, occupation, or locality; and whether, in view of a probable return of the epidemic and its crippling effect on industry, he would consider any amendment of the National Health Insurance Acts to encourage the withdrawal of early influenza cases from factories, workshops, and offices during the most infectious period. Mr. Neville Chamberlain replied that the total number of deaths in London during January and February, 1925, notified as due to influenza was 480, equivalent to 649 per million of the population per annum. Information as to occupations could not be given without a re-examination of the entry relating to each individual death. He thought an amendment of the National Health Insurance Act on the lines suggested would not be practicable. The effect of the Act was already in the direction desired, inasmuch as it encouraged workers to seek prompt medical advice as soon as they began to feel ill, and by providing cash payments during absence from work owing to illness it alleviated the financial loss through such absence.

Infantile Mortality.—The Minister of Health stated, on March 11th, that he had received a report from a woman medical inspector on infantile mortality in Market Drayton. It had not been published, but certain suggestions arising out of the report had been sent to the Salop County Council, and he awaited a reply. In the urban district of Market Drayton there had been 77 births in 1924 and 7 deaths under 1 year, or an infantile mortality of 91 per 1,000. In Wellington Urban District there were 135 births and 4 deaths, or 30 per 1,000; in Newport Urban District 48 births and 2 deaths, or 42 per 1,000; and in the county of Salop as a whole 2,119 births and 127 deaths, or 60 per 1,000.

"Standards" of Lunacy.—Answering Mr. R. Richardson, on March 12th, the Home Secretary said his attention had not been called to recent remarks of a judge in the High Court reprobating "the tendency of medical experts to set up arbitrary standards of insanity under which almost anybody might be certified insane." The Home Secretary said he was not prepared to introduce legislation entitling a prisoner, who was declared insane by medical experts soon after his conviction, although the issue of sanity had not been raised at his trial, to have a trial of the issue of his sanity in open court under the same conditions as if it had been raised by the defence and contested by the prosecution.

Medical Referees.—Mr. Benjamin Smith, on March 16th, asked the Home Secretary whether a medical referee under the Workmen's Compensation Act who is also on the staff of a voluntary hospital was not permitted to give a report on a case under his care at that hospital; and, if so, whether, seeing that this might involve injustice to the patient examined, as no other doctor could know as much of the case, the Minister would consider the advisability of withdrawing the instruction or regulation. Mr. G. Locker-Lampson (Under Secretary) said no specific Home Office instruction or regulation prevented the doctor in such a case giving the workman or the employer a report on the condition of the workman, but if a referee were employed in any case by or on behalf of either party, he was precluded by the statute from acting subsequently as referee in that case. It was also generally undesirable that referees should act for either party in compensation cases, especially cases which were the subject of dispute. The Home Secretary would, however, consider the matter further, and would be glad to be furnished with the details of any cases which Mr. Smith had in mind.

Equal Salaries for the two Sexes.—Miss Wilkinson, on March 17th, asked the Postmaster-General whether he was aware that the Post Office was the only Government department which paid its women doctors less than its men doctors for similar work; and whether, in view of the fact that the Post Office advertisements for posts at present vacant were being refused by the medical journals in consequence, he would bring his department into line with other departments in this matter. The Postmaster-General answered that the conditions under which women medical officers were employed in the Post Office were not analogous with those in other departments. The question of equal pay for men and women was one which affected the whole of the Civil Service, and he was not in a position to recommend an exception in respect of this particular class of civil servant. Miss Wilkinson, in a supplementary question, asserted that the work done by men and women doctors in the Post Office was analogous. The Postmaster-General, correcting his answer, said that one other Government department approximated to Post Office conditions—the Prison Medical Service—and there the payment of men and women doctors was not identical. Dr. Haden Guest asked whether, as the medical papers would not insert medical advertisemnts from the Post Office, the Post Office had to enter into surreptitious correspondence with certain medical schools to obtain candidates. Did the Postmaster-General think that was dignified? No answer was returned.

Number and Cost of Asylums.—Major Glyn asked the Minister of Health, on March 11th, how many asylums for lunatics were under the administration of local authorities now and for the years 1900 and 1914; what was the total number of inmates now and for the same years, and what was the present cost of maintaining these institutions. Mr. Neville Chamberlain said that the cost of maintaining these asylums, excluding loan charges, during the year ended March 31st, 1924, was £6,242,284. On January 1st, 1900, the institutions numbered 79, with 74,044 inmates. On January 1st, 1914, they were 97, with 105,504 inmates, and on January 1st, 1925, 97, with 105,399 inmates. The last figures did not include Ewell Epileptic Colony, lent to the Ministry of Pensions, or the Maudsley Hospital, which provided accommodation for 146 uncertified patients. In answer to another question, the Minister of Health stated that on January 1st, 1925, 111,200 persons were confined in institutions for the insane in England and Wales, of whom 102,313 were maintained at the public expense.

Ministry of Health.—Lieut.-Colonel Horlick asked the Minister of Health, on March 12th, how many established medical officers were employed by the Local Government Board in 1914-15 and by the Ministry of Health in 1920; how many established and unestablished medical officers were working for his department at present; and what was the total amount recovered out of the National Health Insurance funds towards the salaries and expenses of regional medical officers. Mr. Neville Chamberlain replied that 34 established medical officers were employed by the Local Government Board in 1914-15, and 73 by the Ministry of Health in 1920. The number of established and unestablished medical officers at present employed was 92. The amount recovered from health insurance funds towards the salaries and expenses of regional medical officers was £36,800 for the current financial year.

Health Insurance Finances.—In answer to questions the Minister of Health, on March 13th, gave the approximate total, on December 31st, 1923, of the accumulated funds belonging to all the separate approved societies under the National Health Insurance Act and the statutory funds established from deposit contributors and from persons, not previously insured in societies, serving in the Navy, Army, and Air Force. This total was:

Invested with the National Debt Commissioners ...	£66,000,000
Invested by or on behalf of approved societies ...	£40,000,000
Cash at bank, etc.	£2,000,000

The approximate amount of reserve values outstanding at December 31st, 1923, was £105,000,000. In 1912-13 the estimated number of persons entitled to benefit under the National Health Insurance Act was 13,164,000. The contributions were £26,571,000, and the parliamentary votes and grants £6,395,000. In 1921 the persons were 15,134,000, the contributions £25,160,000, and the parliamentary votes and grants £11,757,000. In 1922 the persons were 15,168,000, the contributions £25,002,000, and the votes and grants £8,414,000. In 1923 the totals were 15,037,000, £26,210,000, and £6,940,000 respectively.

Shortage of Officers R.A.M.C.—In presenting the Army Estimates, on March 16th, the Secretary for War, Sir L. Worthington-Evans, said he was disquieted by the number of recruits who had been rejected on physical and medical grounds. During the last recruiting year 49,245 men were rejected—5 out of 8 who presented themselves. Dr. Fremantle, who was prepared with material on army medical topics, was not called on, but Colonel Assheton Pownall drew attention to the position of the Royal Army Medical Corps. The House, he said, did not appreciate the seriousness of the shortage of officers in this Corps. Many the Corps would gladly have kept had resigned in recent years, being dissatisfied with their prospects, and very few had come forward. Of 80 vacancies advertised during the last two years, only 25 had been filled, and during the year ending January 31st, 1925, only one candidate had been gazetted into the R.A.M.C. The total establishment in England and abroad was 884, and the wastage was about 60 or 70 a year. The pay of combatant officers had been greatly increased, while that of R.A.M.C. officers was very slightly more than in 1914. While the pay of captains and majors in the R.A.M.C. was somewhat more than that of the equivalent combatant officers, lieutenant-colonels drew less, if command pay were included. It should be remembered that the combatant officer was gazetted at 19, the R.A.M.C. officer at 24. In the interval up to £2,000 had to be paid, and many parents were not prepared to find this sum in view of the uncertain prospects in the R.A.M.C. The levying of income tax on the extra pay awarded to medical officers who specialized also discouraged them. Civilian practitioners had been doing so much better in recent years, owing, it might be, to the assured position of panel practitioners, that medical men would not run the risk of going into the army. He suggested that the Government should consider making the Director-General of the Medical Service a member of the Army Council. The Secretary of War agreed that the position of the R.A.M.C. had to be looked into carefully. The army was not getting the officers it required, and an undue burden was thrown on those in the Corps. The conditions of medical service in the Navy and in the Air Force would have to be considered at the same time, and he hoped a remedy might shortly be found.

Bovine Tuberculosis.—Mr. Hurd asked the Minister of Agriculture, on March 16th, whether, following upon the visit of his scientific advisers to North America, he proposed to adopt in this country such administrative methods for the elimination of bovine tuberculosis as had proved successful in the United States and Canada. Captain Hacking, answering for the Ministry of Agriculture, said the Minister had under consideration means for the elimination of bovine tuberculosis, and he proposed to introduce shortly a measure on the lines of the Tuberculosis Order of 1914, which was a necessary step in any procedure of the kind. [It is understood that the answer of the Ministry of Health forecasting the adoption of "means for the elimination of bovine tuberculosis" does not allude to a curative method, but to the offer of such liberal compensation as would ensure the offer of affected cattle for slaughter. The money cost of this policy to the country will be considerable.]

Notes in Brief.

In June, 1921, 11,442 adult workmen were engaged in the manufacture of fine chemicals and drugs in Great Britain. No later figures are available.

During 1923, 14,367 houses in England and Wales were reported as unfit for human habitation.

The Air Ministry has reviewed the American experiments in dropping electrically charged sand from aeroplanes to disperse fogs, but cannot undertake expensive tests of this process, as scientific opinion in England and America is not satisfied with the evidence of success so far given.

The Foot-and-Mouth Disease Scientific Committee expended £5,500 down to February 28th out of £10,000 voted for it in 1924-25. In 1925-26 £15,000 has been assigned to the committee.

No date has yet been fixed by the Home Secretary for the introduction of the Factories Bill.

At the last census of England and Wales 306,000 widows were stated to have dependent children. In respect of 301,000 widows no statement was made about such children. Approximately 55,000 widows with dependent children receive Poor Law relief.

The Minister of Health is anxious to give any help in his power to voluntary societies formed for the reconstruction of insanitary property and the rehousing of the occupants.

The Minister of Health is in communication with the Wednesbury Corporation on the report recently submitted by inspectors of his department about insanitary conditions in the West Bromwich Union, particularly in the parish of Wednesbury.

In reply to Mr. Cadogan, on March 17th, Sir Kingsley Wood said it was not proposed to publish the evidence given before the Departmental Committee on Preservatives in Food, and the Minister of Health did not contemplate setting up a standing advisory committee on food questions.

Sir John Gilmour informed Mr. Maxton, on March 17th, that the discontinuance of the annual grant from the Board of Agriculture to the Glasgow Veterinary College would not affect the position of that college as a central institution within the meaning of the Education (Scotland) Act, 1908.

Progress is being made, the India Office announces, as fast as financial conditions permit, in giving effect in India to the recommendations of the British Station Hospitals Committee of 1918.

The provision of schools and classes for mentally defective children in Scotland has increased since July, 1923, but figures are not yet available beyond that date.

The known blind persons in England and Wales on June 30th, 1923, numbered 36,518. Approximately 2,090 were specifically employed in workshops, the average wage being approximately 20s. a week, with augmentation in all cases. On December 31st, 1924, 11,525 blind persons between 50 and 70 years of age were receiving pensions under Section 1 of the Blind Persons Act, 1920.

Correspondence.

THE PREVENTIVE MEDICINE OF THE EAR.

SIR,—Mr. Somerville Hastings in his article (BRITISH MEDICAL JOURNAL, March 14th, p. 504) makes several assumptions which require to be proved before they can be accepted. I shall, however, confine my attention to only two of these.

How does he know that in any given case medical or surgical interference has arrested the progress of the deafness? Before reaching the conclusion that this can be done a number of carefully recorded cases must be presented accompanied by a number of controls.

What is Mr. Hastings's conception of a normal nose, nasopharynx, and throat? I was more than astonished to read, "but I personally can recall only one case of middle-ear deafness in which the nose, nasopharynx, and ear drums appeared perfectly healthy and in which a clear history of previous trouble in these regions could not be obtained when carefully inquired for."

Does it, then, follow that we are to apply therapeutic measures to every individual who has not, or even has not always had, a normal nose and nasopharynx, in order either to stop the progress of middle-ear deafness or to prevent it from beginning? If so it would seem to follow that nearly the whole population should be under treatment.

I note that Mr. Hastings seems to except certain cases, about which he tells us nothing more than that some have atrophied drum membranes. It is, I admit, not always easy to differentiate advanced middle-ear catarrh from oto-sclerosis, but every otologist has had experience of many typical cases of the latter, and in my opinion nothing can be done by local treatment to influence their progress. Some of them, however, cease to get worse if left to themselves.

It has always appeared to me that the otologist will best add to his own reputation for acumen and honesty by avoiding local interference in typical oto-sclerosis.—I am, etc.,

York, March 16th. P. MCBRIDE.

ON PLASTIC TONE IN RELATION TO THE HEART.

SIR,—Sir Charles Sherrington's work respecting plastic tone, which has played such an important part in the masterly monograph of the late Dr. J. Irvine Hunter upon the innervation of the voluntary muscles, also supplies a satisfactory working hypothesis to those clinicians who believe that the heart fills itself by its own recoil.

There is one aspect of plastic tone which does not appear to be much emphasized in Sir Charles Sherrington's or Dr. Irvine Hunter's work—namely, that when a muscle fibre is fixed by the onset of plastic tone it becomes an elastic structure and not a rigid one. In other words, when it is exposed to tension or to compression beyond what it is capable of resisting it is distorted by the force applied to it, but returns to its previous length immediately the distorting force has ceased.

Those surgeons who have been fortunate enough during a laparotomy to see the colon hardened and transformed into a tube resembling a piece of thick-walled rubber tubing by the onset of plastic tone will have had this point demonstrated to them. When a spasm of plastic tone passes over a loop of the colon it will rise up as an arch and respond just as a piece of thick-walled rubber tubing would. When the arched-up loop of bowel is forced down it springs up again immediately it is released, or if flattened by compression it becomes cylindrical again as soon as the compression ceases. In the intervals between the attacks of plastic tonicity the colon will lie flaccid and inert. This elasticity of the muscular fibres when in a state of plastic tone suggests the desirability of describing this type of activity by some such term as "elastic fixation."

May we not believe that this type of activity has another function in addition to what may be called its postural function? Where mechanical work is concerned it is often advantageous to work against a spring, so that force may gradually reach its maximal efficiency rather than that the full strain should be borne suddenly. For instance, when raising water with a force pump the insertion of an air dome (as in a manual fire engine) not only ensures a continuous flow of the water, but also makes more effective the labour of those who are pumping.

In the same way the elastic fixation of the portions of the voluntary muscles which are innervated through the sympathetic system can form a spring against which the voluntary fibres can work, and thus allow of the gradual application of the muscular force when this is desirable instead of its coming suddenly into play. If this "elastic fixation" were to continue a fraction of a second after the voluntary action ceased it would suffice to restore the limb to the position it occupied prior to the voluntary movement.

In the case of the heart, this theory of elastic fixation readily accounts for the filling of the ventricles. The persistence of elastic fixation for one-tenth of a second after the closure of the semilunar valves is all that is required to ensure that the ventricle fills itself from the blood which has been accumulating in the auricle.

This theory will also meet the objection of those who find no evidence of any expansion phase of cardiac activity in the electro-cardiogram, for there is no need to suppose that the return to its former length of an elastic body which has been compressed would give rise to any change in its electrical reactions. (For the clinical arguments in favour of the ventricles being self-filling see my book *Early Diagnosis of Heart Failure*, pp. 385-441. London: J. Murray.)—I am, etc.,

Birmingham, March 9th. T. STACEY WILSON.

THYROID AND MANGANESE AND THE DERMATITIS PRODUCED BY THIAZOLES.

SIR,—The almost simultaneous appearance of two articles, the one on the thyroid and manganese treatment in various diseases (JOURNAL, March 7th, p. 443), and the other on severe dermatitis produced by thiazoles (March 14th, p. 509), stimulates me to make a few remarks.

Manganese I regard as a metal eminently suited to occasion dispersion of the protein particles in the plasma, and the most suitable preparation I have been able to introduce to date is the butyrate. In acute infections and intoxications manganese butyrate does not require to be preceded by a drug, which acts by driving some of the protein particles into solution. This is necessary only in the chronic stage of infections and intoxications, where some of the protein particles are hydrated already. Depriving hydrated particles of some of their water causes them to become dispersed, and this kind of dispersion is more readily effected by dehydrators than by conductors.

Thyroxin is essentially a dehydrator, and so are the various organic preparations of sulphur I have introduced into medicine. In chronic conditions an injection of iodine or of contramine (CS_2, product of diethlyamine), preferably of both, allows a metal subsequently prescribed to produce many times the degree of dispersion which could be obtained by using the conductor (metal) alone. This was why I have advised for many years the use of iodine and sulphur in all chronic infections and intoxications prior to prescribing the metallic preparations.

Drugs occasioning dehydration of normal protein particles are liable to produce a dermatitis. In fact, it is primarily owing to the protein particles going into solution that the dermatitis produced by organic preparations of sulphur, paraphenylene-diamine and other amino compounds and arseno-benzene is due. When the dehydration is produced by non-metallic substances—of which iodine, sulphur, and amino are the chief offenders—a metallic substance will redress the damage done. Similarly, in metallic intoxication a non-metallic substance is the best antidote. The best example of the latter is arsenical dermatitis, a condition which responds rapidly to daily injections of contramine. This has been substantiated of late by those who recommend sodium thiosulphate. Iodine dermatitis is met with in iodoform poisoning, and amino dermatitis in para-phenylene-diamine poisoning (fur dermatitis). Both these conditions vanish the moment manganese butyrate is injected. Organic preparations of sulphur cause various

forms of dermatitis, from the simple erythema to the severe burns witnessed in mustard-gas poisoning. In all of these manganese butyrate is of value. But in the most severe it is not sufficiently powerful. Recent work has shown me that a better conductor effect can be produced by the liberation of sodium and hydrogen atoms from a highly complex substance than can be obtained with any preparation of manganese at present available. In other words, some of the severe cases of sulphur dermatitis respond better to certain complex symmetrical urea compounds, which I am introducing as therapeutic agents, than to organic compounds of manganese.

As there is no fundamental difference between the action of non-metals and micro-organisms, it is understandable why metallic preparations are valuable therapeutic agents in the acute stage of infections.—I am, etc.,

London, W., March 13th. J. E. R. McDONAGH.

CARE OF CRIPPLES.

SIR,—Mr. Hey Groves has dealt with the subject of poliomyelitis in his usual lucid manner (March 14th, p. 492), but the latter part of his article seems hardly to give credit for the great advances made in recent years in the co-operation of the voluntary hospitals with local education and tuberculosis authorities and other agencies charged with the care and cure of the crippled child.

Until recently his strictures were more than justified, but since the war great efforts have been made to put the after-treatment of cripples on a scientific and secure basis. Originated at Baschurch, and developed in Oxford, there are few counties in England now that are not engaged in the organization of after-care.

For London and the Home Counties there already exists a voluntary organization for dealing with the type of case that Mr. Hey Groves has in mind. This is the Royal National Orthopaedic Hospital with its 200 beds in Great Portland Street, and its new rural branch of over 100 beds, with the immediate prospect of a further 200, at Stanmore, Middlesex. This country hospital, which stands on gravel soil on the top of Brockley Hill, 450 feet above sea-level, is ideally situated for its purpose. It is only ten miles from the Marble Arch in a straight line along the Edgware Road, and a mile and a half from the Hampstead tube terminus at Edgware.

Plans have been prepared for the addition of another 200 beds with new theatre and treatment blocks and full artificial sunlight equipment. The site of 30 acres allows for any necessary future extension up to as many as 600 or even more beds. Arrangements for in-patient treatment are in operation with the London County Council and the Hertfordshire and Middlesex County Councils, as well as with many other local educational and tuberculosis authorities.

A scheme of clinics for after-care and treatment is already in being in Hertfordshire, and these clinics are being visited periodically by one of the surgeons of the hospital. Negotiations for a similar arrangement are in progress between the hospital and other county local authorities.—I am, etc.,

J. B. BARNETT,
Resident Medical Officer and Surgical Registrar.

Royal National Orthopaedic Hospital, Stanmore, March 16th.

ISOLATION HOSPITALS AND SCARLET FEVER.

SIR,—I have purposely refrained from entering into the controversy on the value of the method introduced by my father for the prevention and treatment of scarlet fever and measles; but I cannot pass, unchallenged, a statement made by Dr. Burton (March 14th, p. 531) that this method has been discarded in the home of its birth. That is not so. In the hospital and homes which are under my care the Milne method has always been, and is still being, used with satisfactory results and absence of complications.

I would refer Dr. Burton to the experiences of other medical officers of health at Edinburgh, Forfar, Clydebank, Tottenham, Southgate, Heston and Isleworth, Castleford, and other places.

The statements made both by Dr. Gushue-Taylor and by Dr. Burton, alleging that the swabbing of the throat with 10 per cent. carbolic oil is harmful, are also inaccurate. I have used it personally and for my patients (children of all ages) for over twenty years, and have seen none but the most beneficial results; it is both analgesic and antiseptic, and I have never seen any harm result from its use.—I am, etc.,

JAMES A. MILNE,
Joint Medical Officer,
Dr. Barnardo's Homes and Hospitals.

March 14th.

HEART STRAIN.

SIR,—I appreciate the interest Dr. E. S. Miller has taken in my paper on heart strain (March 7th, p. 482), challenging though he does a theory expressed in it. I am not, however, persuaded by his letter that the principle of the Bramah press is not applicable to the force acting on the left ventricle in aortic incompetence; but I will not occupy your space by arguing what is chiefly a scientific point.

I think all agree that, whatever the reason, aortic incompetence is the most serious of valvular diseases and the one most likely to cause sudden heart failure.—I am, etc.,

Manchester, March 16th. E. M. BROCKBANK.

"WEMIC."

SIR,—I should be greatly indebted to you or to any of your historical contributors if I could be informed of the meaning of the word "wemic." It occurs in some fragmentary depositions remaining in the bishop's registry at Chester. It is evidently a surgical affection of an urgent, life-and-death character, for which the mediaeval surgeons operated, as the testator was "cutt' of a wemic and in daunger of death." But he was clear in his mind and talked to those about him, and gave instructions concerning his will. A "phisicon" and a surgeon were present, and the former deposed that "Testator had undergone an operation just before executing his will, and died a few hours after." The date is 1574. "We . . ." is not yet out in the *N.E.D.*, so that source of information is not available. I am familiar with the word "wem."—I am, etc.,

Liverpool, March 13th. F. CHARLES LARKIN.

Medico-Legal.

LUNACY LAW AND ADMINISTRATION.

HARNETT *v.* BOND AND ADAM.

THE hearing by the House of Lords of the case Harnett *v.* Bond and Adam—the commencement of which was reported in the BRITISH MEDICAL JOURNAL last week (p. 533)—was continued on Thursday, March 12th.

Mr. Cope Morgan, for the appellant, was arguing that Dr. Bond was not only responsible for the three hours' detention in the Commissioners' office in Victoria Street, London, but also for the taking of Mr. Harnett back to Dr. Adam's mental home at Malling Place, when Lord Atkinson asked:

If Dr. Bond induced Dr. Adam to take Mr. Harnett back, and Dr. Adam took him back, whose act was it?

Lord Dunedin: And, if one Scotsman said to another, "That's good whisky," and the other drew the cork, whose act was it that drew the cork?

Lord Buckmaster: It was Dr. Adam who ordered his two servants to take Mr. Harnett back, and all Dr. Bond did was to give Mr. Harnett over to the two servants. It was not Dr. Bond but Dr. Adam who took him back.

Mr. Cope Morgan: But the jury found that Dr. Bond did cause Mr. Harnett to be taken back.

Lord Dunedin: And we say, Let the jury answer as they like. There is no evidence on which they can so find.

Lord Buckmaster: And Mr. Harnett's unlawful detention ceased from the moment Dr. Adam's own servants, under Dr. Adam's orders, took him back into Dr. Adam's care.

Mr. Cope Morgan: But the jury found that the motor car journey was the act of Dr. Bond.

Lord Buckmaster: Your statement of claim says quite the opposite.

Lord Atkinson: Did Dr. Bond do anything more than suggest to Dr. Adam that Mr. Harnett should be taken back?

Mr. Cope Morgan: Dr. Bond, in the words of Mr. Dickinson, used "gentle persuasion" by which he secured Mr. Harnett's return into the hands of the keepers.

Lord Atkinson: Dr. Bond did not order Dr. Adam to send for Mr. Harnett?

Mr. Cope Morgan: Dr. Adam's information, as a Lord Justice put it, came from a source which was authoritative.

Lord Atkinson suggested that it would be highly reprehensible on the part of Dr. Bond if he formed an opinion that Mr. Harnett was excited and looked in a dangerous condition and yet did nothing. If Mr. Harnett appeared excited and not completely recovered, therefore the best thing to do was to take him back.

Lord Buckmaster (to Counsel): You *will* assume that Dr. Adam accepts Dr. Bond's opinion as to Mr. Harnett's condition. Dr. Adam, surely, knew perfectly well that Dr. Bond was sitting in those offices as a Commissioner? What happened is this: The jury found that Dr. Bond believed that Mr. Harnett had escaped from the custody of his brother. Mr. Harnett had addressed Dr. Bond in such an excitable manner that Dr. Bond found a difficulty in following what Mr. Harnett was saying. On these facts, was not Dr. Bond justified in pointing out to Dr. Adam, the legal custodian of the man: Be careful; this man is out, and you had better take him back again? What was Dr. Bond to do else? Was he to send for a specialist from Harley Street?

Mr. Cope Morgan: Mr. Harnett told Dr. Bond the simple story of what had happened to him.

Lord Buckmaster: But did it seem a plain, simple story, or did it appear to be continued excitement in the man? On these facts, I do not really know what Dr. Bond was to do? There were three courses: (*a*) let him go; (*b*) do what he actually did; (*c*) ask him to see an eminent physician and take a further opinion at his own expense.

Mr. Cope Morgan: There was no indication of excitement in Mr. Harnett's mind then.

Lord Buckmaster: If he came in as a plain, sensible person, why should Dr. Bond do what he did? Whatever induced him to? If a servant came to you in your house one day and said: "There is a man in the house in great excitement; he seems mad; what are we to do?" It is certain what you would say: "Keep him here and telephone to where he has come from."

Mr. Cope Morgan: If I had done that, and sent a record of what I had done to the doctor, it would be childish to argue that anything I had done was of the same significance ——

Lord Buckmaster (interrupting): All he had done was something wrong in detaining him.

Mr. Cope Morgan: In such a case it would be childish to say I had procured the mind of the doctor; but it is otherwise here.

Mr. Cope Morgan submitted that their lordships could not view Dr. Adam's act as independent of the action of Dr. Bond. On the facts, Dr. Bond must be regarded as the direct cause of the wrongful detention that night by Dr. Adam.

Mr. Cope Morgan, at the commencement of Friday's hearing, said that Mr. Harnett had withdrawn his instructions, but, after leaving the House for a short time, he said that that withdrawal had since been revoked. Continuing his argument, Mr. Cope Morgan said that Dr. Adam had not acted with reasonable care, and there was evidence upon which the jury's finding to this effect could be justified. Mr. Justice Lush had said that it was for Dr. Adam, under the authority given by the Reception Order and the Leave of Absence Order—made under Section 55 of the Lunacy Act, 1890, and containing the proviso, sanctioned by the Law Officers at a later date, that the patient should be taken back "if his mental condition requires it"—independently to decide whether Mr. Harnett's condition required his being taken back. Assuming that the statute did give Dr. Adam power to go out and recapture Mr. Harnett then counsel contended it must be a condition precedent to the exercise of that power that Dr. Adam should exercise an independent opinion. The proviso "if his mental condition requires it" meant what it said, and since, as a fact, Mr. Harnett's mental condition did not require it, then Dr. Adam had no more authority to arrest Mr. Harnett than an ordinary person had power to arrest another person on the supposition of crime.

Lord Atkinson: But who else was to decide under the Reception Order? How was he to be got back? What is to be done? If he is not to take him back under the old Reception Order and Leave of Absence Order, must he get a new order, or must somebody else bring him back there?

Mr. Cope Morgan: Of course, Dr. Adam could have taken him back if somebody else brought him there. Dr. Adam's whole authority under the Lunacy Act, as a proprietor of a licensed house, was to receive and keep a man under a reception order; he had no extramural authority.

Lord Sumner: Would you say, in those circumstances, Section 330 of the Lunacy Act, 1890, would not apply?

Mr. Cope Morgan replied that in respect of the first part of the detention the jury had found that Dr. Adam had not acted with "reasonable care," which was a condition precedent to the application of the section.

Lord Dunedin: Then, in your view, for the time occupied by the motor-car drive before Dr. Adam exercised his judgement, you should get damages—just for an hour's motor drive?

Mr. Cope Morgan said damages for an hour's motor journey may be substantial if the direct object of the journey was incarceration in a lunatic asylum.

The Lord Chancellor: What were the grounds of the finding that Dr. Adam did not exercise reasonable care?

Mr. Cope Morgan: (1) That Dr. Adam did not go to the offices of the Commissioners himself; (2) that he did not even send his assistant, Dr. Gray.

Lord Atkinson: Tell me how he was to be brought back?

Mr. Cope Morgan: The whole charge was that Dr. Adam brought Mr. Harnett back without seeing him. The third ground was that this act of Dr. Adam did harm to Mr. Harnett.

The Lord Chancellor: It is not want of care because he did harm.

Lord Buckmaster: What other grounds besides not going himself and not sending his assistant?

Mr. Cope Morgan: The fourth ground is that, in the circumstances, Dr. Adam admitted that this motor journey necessitated keeping Mr. Harnett detained for two hours before the car arrived.

The Lord Chancellor: It amounts to this: Dr. Adam did not go himself and did not send Dr. Gray.

Mr. Cope Morgan: The fifth ground is that Dr. Adam did not explain to Dr. Bond that he had wholly misled Dr. Bond as to the terms on which Mr. Harnett was out. Dr. Adam did not ask the question which would have revealed the true situation.

Mr. Cope Morgan pointed out that the jury had found that although Dr. Adam honestly believed Mr. Harnett was unfit to be at large yet they did not think he had exercised reasonable care because he had not himself gone to London to see whether Mr. Harnett's mental condition did require his being brought back.

Lord Buckmaster said if a man honestly believed the patient was unfit to be at large, and that it was in the patient's interest to be brought back, and he sent for the patient to be brought back, it was sufficient for the purposes of Section 330 if he showed that the internal arrangements of the asylum would have been interfered with if he had gone himself.

Mr. Cope Morgan: Where a defendant takes upon himself to say that the reason why he did not go was because his assistant had an afternoon off?

Lord Buckmaster: It was a Saturday afternoon, and if a man said how he spent an afternoon twelve years ago without anything to refresh his memory I should doubt his accuracy.

Mr. Cope Morgan: But the jury found he did not exercise reasonable care. He brought Mr. Harnett back and formed his opinion afterwards, instead of forming his opinion prior to bringing Mr. Harnett back. Then, also, when on the telephone to Dr. Bond, Dr. Adam was plainly negligent. Mr. Harnett had not been seen by then.

Lord Buckmaster: They must have seen him, else they could not have said on the telephone that Mr. Harnett was in an excited condition.

Mr. Cope Morgan: Dr. Bond said Dr. Adam told him Mr. Harnett had been allowed out on a Leave of Absence Order in the care of his brother. Dr. Adam then said, "Then he has escaped from his brother? Very well; I will send a car."

Lord Atkinson: He escaped from his brother and went expressly to the Commissioners to get released from his brother s care.

Mr. Cope Morgan: Dr. Adam made a crucial mistake in not going on with the conversation.

Lord Buckmaster: He said he did, but he could not remember what he said as it was twelve years ago. The whole point is whether this statement of Mr. Harnett's to Dr. Bond was made before or after the telephone message.

Mr. Cope Morgan: The memorandum of Dr. Bond says it was made afterwards.

The Lord Chancellor: But he also said there may have been two telephone messages.

Mr. Cope Morgan reiterated that the jury had found that Dr. Adam had not exercised reasonable care.

Lord Buckmaster: You keep introducing "reasonable care." Supposing Dr. Adam was informed by credible authority that Mr. Harnett was not fit to be at large, surely the statutory obligation of reasonable care is satisfied.

Mr. Cope Morgan concluded his argument on Monday afternoon, and Mr. J. W. Morris, who followed, in a brief address to the House, submitted that if Mr. Harnett had suffered physical injuries as the result of the false imprisonment he would have recovered damages. Surely, then, as he had suffered physical injuries in the shape of severe nervous shock as the result of false imprisonment, he ought to be awarded damages.

Decision of the House.

At the conclusion of the arguments of appellant's counsel, the Lord Chancellor announced that their lordships did not desire to hear counsel for either of the respondents. They were unanimously of opinion that the Court of Appeal had arrived at the right conclusion. But in view of the general importance of the questions raised by the appeal their lordships would take time to enable them to put their reasons for their decision in writing.

The Services.

ROYAL NAVAL MEDICAL SERVICE.

COMPASSIONATE FUND.

A MEETING of the subscribers of the Naval Medical Compassionate Fund will be held at 11.30 a.m. on April 17th at the Medical Department of the Navy, 68, Victoria Street, S.W.1, to elect six directors of the fund.

WAZIRISTAN OPERATIONS.

THE following appointments to the Order of the British Empire are announced in connexion with the military operations in Waziristan, April, 1923, to March, 1924:

O.B.E. (Military): Major Charles Herbert Stringer, D.S.O., R.A.M.C.
M.B.E. (Military): Captain Ambuj Nath Bose, I.M.S., Captain Henry Hawes Elliot, M.C., I.M.S.

The following officers have been brought to notice for distinguished services during the Waziristan operations:

Royal Army Medical Corps: Major C. H. Stringer, D.S.O., Captain D. G. Gripper, Captain D. C. Scott, O.B.E.
Indian Medical Service: Captains T. R. Birmani, C. M. Ganapathy, M.C., D. V. O'Malley, O.B.E., M. V. Pathak, B. Prasad, and R. V. Rau.
Indian Medical Department: 2nd Class Assistant Surgeon G. H. Mason.

Universities and Colleges.

UNIVERSITY OF OXFORD.

THE appointment of Mr. Kenneth J. Franklin, M.A., B.M., Fellow of Oriel College, to be demonstrator in the department of pharmacology, has been approved by Convocation.

UNIVERSITY OF CAMBRIDGE.

AT a congregation held on March 13th the following medical degrees were conferred:

M.D.—C. R. Crowther, J. W. Tonks.
M.CHIR. AND M.B.—G. L. Thompson.
M.B.—A. H. Johns, J. C. Ainsworth-Davis.

UNIVERSITY OF LONDON.

ELECTION TO SENATE.

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Mr. Arthur Percy Dodds-Parker was admitted a member of the Court of Examiners.

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Other Members of Council.—Sir Anthony Bowlby, Bt., K.C.B., K.C.M.G., K.C.V.O., C. (1) 1904, (2) 1912, (3) 1920, Pres. 1920, 1921, 1922; Sir Charles Alfred Ballance, K.C.M.G., C.B., M.V.O., C. (1) 1910, (2) 1914, (3) 1922; Sir D'Arcy Power, K.B.E., C. (1) 1912, (2) 1920; Sir Berkeley George Andrew Moynihan, Bt., K.C.M.G., C.B., C. (1) 1912 (substitute), (2) 1919; Mr. Vincent Warren Low, C.B., C. (1) 1916 (substitute), (2) 1917; Mr. James Sherren, C.B.E., C. 1917; Sir John Lynn-Thomas, K.B.E., C.B., C.M.G., C. 1918 (substitute till 1925); Mr. Ernest William Hey Groves, C. 1918; Sir Cuthbert Sidney Wallace, K.C.M.G., C.B., C. 1919; Mr. Francis James Steward, C. 1920; Mr. William Thelwall Thomas, M.B.E., C. 1921; Mr. Charles Herbert Fagge, C. 1921; Mr. Robert Pugh Rowlands, O.B.E., C. 1922; Mr. James Berry, C. 1923; Mr. John Herbert Fisher, C. 1923; Mr. William Sampson Handley, C. 1923; Mr. Percy Sargent, C.M.G., D.S.O., C. 1923; Mr. George Ernest Gask, C.M.G., D.S.O., C. 1923; Mr. William McAdam Eccles, C. (1) 1914, (2) 1924; Mr. Wilfred Trotter, C. 1924; Sir Charles Gordon Gordon-Watson, K.B.E., C.M.G., C. 1924.

The medical schools are represented as follows:

London:	
St. Bartholomew's	6
Guy's	3
London	1
Middlesex	2
St. Thomas's	4
St. Mary's	1
University College	1
Westminster	1
Royal Free	1
Total London	20
Provincial:	
Bristol	1
Cardiff	1
Leeds	1
Liverpool	1
Total Provinces	4
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Lord Atkinson suggested that it would be highly reprehensible on the part of Dr. Bond if he formed an opinion that Mr. Harnett was excited and looked in a dangerous condition and yet did nothing. If Mr. Harnett appeared excited and not completely recovered, therefore the best thing to do was to take him back.

Lord Buckmaster (to Counsel): You *will* assume that Dr. Adam accepts Dr. Bond's opinion as to Mr. Harnett's condition. Dr. Adam, surely, knew perfectly well that Dr. Bond was sitting in those offices as a Commissioner? What happened is this: The jury found that Dr. Bond believed that Mr. Harnett had escaped from the custody of his brother. Mr. Harnett had addressed Dr. Bond in such an excitable manner that Dr. Bond found a difficulty in following what Mr. Harnett was saying. On these facts, was not Dr. Bond justified in pointing out to Dr. Adam, the legal custodian of the man: Be careful; this man is out, and you had better take him back again? What was Dr. Bond to do else? Was he to send for a specialist from Harley Street?

Mr. Cope Morgan: Mr. Harnett told Dr. Bond the simple story of what had happened to him.

Lord Buckmaster: But did it seem a plain, simple story, or did it appear to be continued excitement in the man? On these facts, I do not really know what Dr. Bond was to do? There were three courses: (*a*) let him go; (*b*) do what he actually did; (*c*) ask him to see an eminent physician and take a further opinion at his own expense.

Mr. Cope Morgan: There was no indication of excitement in Mr. Harnett's mind then.

Lord Buckmaster: If he came in as a plain, sensible person, why should Dr. Bond do what he did? Whatever induced him to? If a servant came to you in your house one day and said: "There is a man in the house in great excitement; he seems mad; what are we to do?" It is certain what you would say: "Keep him here and telephone to where he has come from."

Mr. Cope Morgan: If I had done that, and sent a record of what I had done to the doctor, it would be childish to argue that anything I had done was of the same significance ——

Lord Buckmaster (interrupting): All he had done was something wrong in detaining him.

Mr. Cope Morgan: In such a case it would be childish to say I had procured the mind of the doctor; but it is otherwise here.

Mr. Cope Morgan submitted that their lordships could not view Dr. Adam's act as independent of the action of Dr. Bond. On the facts, Dr. Bond must be regarded as the direct cause of the wrongful detention that night by Dr. Adam.

Mr. Cope Morgan, at the commencement of Friday's hearing, said that Mr. Harnett had withdrawn his instructions, but, after leaving the House for a short time, he said that that withdrawal had since been revoked. Continuing his argument, Mr. Cope Morgan said that Dr. Adam had not acted with reasonable care, and there was evidence upon which the jury's finding to this effect could be justified. Mr. Justice Lush had said that it was for Dr. Adam, under the authority given by the Reception Order and the Leave of Absence Order—made under Section 55 of the Lunacy Act, 1890, and containing the proviso, sanctioned by the Law Officers at a later date, that the patient should be taken back "if his mental condition requires it"—independently to decide whether Mr. Harnett's condition required his being taken back. Assuming that the statute did give Dr. Adam power to go out and recapture Mr. Harnett then counsel contended it must be a condition precedent to the exercise of that power that Dr. Adam should exercise an independent opinion. The proviso "if his mental condition requires it" meant what it said, and since, as a fact, Mr. Harnett's mental condition did not require it, then Dr. Adam had no more authority to arrest Mr. Harnett than an ordinary person had power to arrest another person on the supposition of crime.

Lord Atkinson: But who else was to decide under the Reception Order? How was he to be got back? What is to be done? If he is not to take him back under the old Reception Order and Leave of Absence Order, must he get a new order, or must somebody else bring him back there?

Mr. Cope Morgan: Of course, Dr. Adam could have taken him back if somebody else brought him there. Dr. Adam's whole authority under the Lunacy Act, as a proprietor of a licensed house, was to receive and keep a man under a reception order; he had no extramural authority.

Lord Sumner: Would you say, in those circumstances, Section 330 of the Lunacy Act, 1890, would not apply?

Mr. Cope Morgan replied that in respect of the first part of the detention the jury had found that Dr. Adam had not acted with "reasonable care," which was a condition precedent to the application of the section.

Lord Dunedin: Then, in your view, for the time occupied by the motor-car drive before Dr. Adam exercised his judgement, you should get damages—just for an hour's motor drive?

Mr. Cope Morgan said damages for an hour's motor journey may be substantial if the direct object of the journey was incarceration in a lunatic asylum.

The Lord Chancellor: What were the grounds of the finding that Dr. Adam did not exercise reasonable care?

Mr. Cope Morgan: (1) That Dr. Adam did not go to the offices of the Commissioners himself; (2) that he did not even send his assistant, Dr. Gray.

Lord Atkinson: Tell me how he was to be brought back?

Mr. Cope Morgan: The whole charge was that Dr. Adam brought Mr. Harnett back without seeing him. The third ground was that this act of Dr. Adam did harm to Mr. Harnett.

The Lord Chancellor: It is not want of care because he did harm.

Lord Buckmaster: What other grounds besides not going himself and not sending his assistant?

Mr. Cope Morgan: The fourth ground is that, in the circumstances, Dr. Adam admitted that this motor journey necessitated keeping Mr. Harnett detained for two hours before the car arrived.

The Lord Chancellor: It amounts to this: Dr. Adam did not go himself and did not send Dr. Gray.

Mr. Cope Morgan: The fifth ground is that Dr. Adam did not explain to Dr. Bond that he had wholly misled Dr. Bond as to the terms on which Mr. Harnett was out. Dr. Adam did not ask the question which would have revealed the true situation.

Mr. Cope Morgan pointed out that the jury had found that although Dr. Adam honestly believed Mr. Harnett was unfit to be at large yet they did not think he had exercised reasonable care because he had not himself gone to London to see whether Mr. Harnett's mental condition did require his being brought back.

Lord Buckmaster said if a man honestly believed the patient was unfit to be at large, and that it was in the patient's interest to be brought back, and he sent for the patient to be brought back, it was sufficient for the purposes of Section 330 if he showed that the internal arrangements of the asylum would have been interfered with if he had gone himself.

Mr. Cope Morgan: Where a defendant takes upon himself to say that the reason why he did not go was because his assistant had an afternoon off?

Lord Buckmaster: It was a Saturday afternoon, and if a man said how he spent an afternoon twelve years ago without anything to refresh his memory I should doubt his accuracy.

Mr. Cope Morgan: But the jury found he did not exercise reasonable care. He brought Mr. Harnett back and formed his opinion afterwards, instead of forming his opinion prior to bringing Mr. Harnett back. Then, also, when on the telephone to Dr. Bond, Dr. Adam was plainly negligent. Mr. Harnett had not been seen by then.

Lord Buckmaster: They must have seen him, else they could not have said on the telephone that Mr. Harnett was in an excited condition.

Mr. Cope Morgan: Dr. Bond said Dr. Adam told him Mr. Harnett had been allowed out on a Leave of Absence Order in the care of his brother. Dr. Adam then said, "Then he has escaped from his brother? Very well; I will send a car."

Lord Atkinson: He escaped from his brother and went expressly to the Commissioners to get released from his brother's care.

Mr. Cope Morgan: Dr. Adam made a crucial mistake in not going on with the conversation.

Lord Buckmaster: He said he did, but he could not remember what he said as it was twelve years ago. The whole point is whether this statement of Mr. Harnett's to Dr. Bond was made before or after the telephone message.

Mr. Cope Morgan: The memorandum of Dr. Bond says it was made afterwards.

The Lord Chancellor: But he also said there may have been two telephone messages.

Mr. Cope Morgan reiterated that the jury had found that Dr. Adam had not exercised reasonable care.

Lord Buckmaster: You keep introducing "reasonable care." Supposing Dr. Adam was informed by credible authority that Mr. Harnett was not fit to be at large, surely the statutory obligation of reasonable care is satisfied.

Mr. Cope Morgan concluded his argument on Monday afternoon, and Mr. J. W. Morris, who followed, in a brief address to the House, submitted that if Mr. Harnett had suffered physical injuries as the result of the false imprisonment he would have recovered damages. Surely, then, as he had suffered physical injuries in the shape of severe nervous shock as the result of false imprisonment, he ought to be awarded damages.

Decision of the House.

At the conclusion of the arguments of appellant's counsel, the Lord Chancellor announced that their lordships did not desire to hear counsel for either of the respondents. They were unanimously of opinion that the Court of Appeal had arrived at the right conclusion. But in view of the general importance of the questions raised by the appeal their lordships would take time to enable them to put their reasons for their decision in writing.

The Services.

ROYAL NAVAL MEDICAL SERVICE.

COMPASSIONATE FUND.

A MEETING of the subscribers of the Naval Medical Compassionate Fund will be held at 11.30 a.m. on April 17th at the Medical Department of the Navy, 68, Victoria Street, S.W.1, to elect six directors of the fund.

WAZIRISTAN OPERATIONS.

THE following appointments to the Order of the British Empire are announced in connexion with the military operations in Waziristan, April, 1923, to March, 1924:

O.B.E. (Military): Major Charles Herbert Stringer, D.S.O., R.A.M.C.
M.B.E. (Military): Captain Ambuj Nath Bose, I.M.S., Captain Henry Hawes Elliot, M.C., I.M.S.

The following officers have been brought to notice for distinguished services during the Waziristan operations:

Royal Army Medical Corps: Major C. H. Stringer, D.S.O., Captain D. G. Gripper, Captain D. C. Scott, O.B.E.
Indian Medical Service: Captains T. R. Birmani, C. M. Ganapathy, M.C., D. V. O'Malley, O.B.E., M. V. Pathak, B. Prasad, and R. V. Rau.
Indian Medical Department: 2nd Class Assistant Surgeon G. H. Mason.

Universities and Colleges.

UNIVERSITY OF OXFORD.

THE appointment of Mr. Kenneth J. Franklin, M.A., B.M., Fellow of Oriel College, to be demonstrator in the department of pharmacology, has been approved by Convocation.

UNIVERSITY OF CAMBRIDGE.

AT a congregation held on March 13th the following medical degrees were conferred:

M.D.—C. R. Crowther, J. W. Tonks.
M.CHIR. AND M.B.—G. L. Thompson.
M.B.—A. H. Johns, J. C. Ainsworth-Davis.

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Obituary.

MARY DARBY STURGE, M.D.LOND.,

Physician to the Birmingham and Midland Hospital for Women.

MISS MARY DARBY STURGE, whose death on March 14th we have the great regret to record, was born at Edgbaston in 1862.

She came of a family distinguished for its practical adherence to the principles of the Society of Friends. Her father, Wilson Sturge, is still held in memory in Birmingham, not only as mayor, which office he filled in 1862, but because he devoted the greater part of his life to the furtherance of peace. Her paternal great-uncle, Joseph Sturge, was an outstanding supporter of all movements which had for their object the improvement of conditions for mankind. Among these were the abolition of slavery, and the cause of temperance.

Miss Sturge was educated at Edgbaston High School for Girls during the wise headship of Miss Cooper. When the Mason Science College (Birmingham University) was opened in 1880, Miss Sturge was one of the first small group of regular women students. In 1886 she passed the preliminary scientific examination of London University. After this an application was made for herself and another woman student to enter the Medical School at Birmingham. This was refused, though the hospitals assented, but Miss Sturge studied physiology for a year at Mason College.

MARY DARBY STURGE, M.D.

In 1886 she entered the London School of Medicine for Women. There she took prizes in anatomy and physiology and became demonstrator in the former subject. Her student career was distinguished throughout; she took honours in anatomy in the intermediate M.B. examination and honours in medicine in the final M.B. She gained the Prideaux Scholarship for an original paper on clinical obstetrics.

After taking her degree, Miss Sturge was for six months resident at the Clapham Maternity Hospital, and at the same time acted as physician to the Dispensary for Women and Children. For two years from 1892 she was resident at the North-Eastern Fever Hospital, and afterwards senior resident at the New (now Elizabeth Garrett Anderson) Hospital for Women. In 1895 she took the M.D.Lond., and began general practice at Edgbaston, where she worked for the rest of her life. From 1895 to 1905 she served the Birmingham and Midland Hospital for Women as anaesthetist, and for nineteen years as honorary physician, resigning the latter appointment in 1924. Miss Sturge was also secretary to the Medical Board of that hospital for eleven years.

She found time for many interests outside her practice. At the opening of the winter session in 1894 at the London School of Medicine for Women, Miss Sturge gave a stimulating and helpful inaugural address. During the years 1920 to 1922 she was the first provincial president of the Medical Women's Federation, and took much interest and pleasure in the work entailed by this office. But probably that by which she will be best remembered, not only among members of the profession but by the general public, is the book *Alcohol and the Human Body* (1907), which was the result of the joint efforts of the late Sir Victor Horsley and herself. Probably they were moved to write the book by the result of the petition signed in 1904 by thirteen thousand members of the medical profession, and addressed to the Board of Education, advocating the teaching of temperance in schools. The facts given in this work were carefully collated, and no book has had more influence in forwarding the cause of temperance. Another side of Miss Sturge's character was revealed in her great love of children, and her interest in all that pertained to their upbringing and education. Long before the idea was generally accepted that sunlight and fresh air were two of the chief essentials for healthy childhood, Miss Sturge was practising and preaching this principle.

One of her recent enterprises was the founding of the Birmingham Taylor Memorial Home for Inoperable Cancer. Her plea was that every healthy woman should contribute to the amelioration of these tragic cases. Miss Sturge was always generous to all funds for the distressed, especially those for the benefit of children. Her poorer patients knew her practical generosity, as also did any "concern" of hers, as she phrased it in the language of the Friends. Miss Sturge was one who upheld the noblest ideals of the profession. She was an indomitable worker, and never spared herself, especially where she thought her professional knowledge could help her fellow creatures to fight and overcome what her religious principles regarded as evils. In fact, a verse of Whittier written after the death of Joseph Sturge, with a slight transposition, might well have been written of her:

> "The very gentlest of all human natures
> She joined to courage strong,
> And love outreaching unto all God's creatures
> With sturdy hate of wrong."

Mr. J. FURNEAUX JORDAN, F.R.C.S., sends us the following appreciation: Dr. Mary D. Sturge was for many years on the staff of the Birmingham Hospital for Women, resigning last year after over twenty years' service. I had the privilege of working closely with her during that time, and I can truthfully say that no patients ever had a kinder, more sympathetic, more helpful doctor than hers. Self-sacrifice was the keynote of her life. She never spared herself in the endeavour to help others. In many ways she was a pioneer. Apart from being the doyen of the women doctors in Birmingham, and loved by all of them, she had the soul and the spirit of an originator. She was always wanting something better for others, and it was this spirit that made her devote every minute of her life not occupied by medicine to various forms of social reform. The profession, and especially the ranks of the women doctors, is the poorer for her loss.

Dr. JANE WALKER writes: There are many people besides myself who deeply regret the passing of Dr. Mary Sturge. She and I of late years have done a great deal of work together. She was one of the keenest workers for the Medical Women's Federation, and helped devotedly with its constitution and organization from its inception. We did not always see eye to eye, but our differences perhaps made us better friends; certainly they sharpened our wits. Dr. Sturge was every inch of her a Quaker, but she was not exactly of the "turn the other cheek" brand. She was a keen fighter, and indeed the phrase which sounds like a contradiction in terms—namely, "fighting pacifist"—would, I am sure, in the opinion of those who knew her best describe her. But her fighting was never for her own hand, but was directed steadfastly against wrong-doing and wickedness wherever she felt they were to be found. She is perhaps best known for her work in the cause of temperance, in which she collaborated with the late Sir Victor Horsley in the production of *Alcohol and the Human Body*, a book which has run through many editions. But she was a great worker for the promotion of purity and of a cleaner social life. She served on a committee which dealt with the prevention and cure of venereal disease, where her Quaker tradition and convictions showed her plainly how futile and harmful were all methods of compulsion applied to the problems which surrounded the control of these diseases. Such a fine unselfseeking character will be very greatly missed, and the world is indeed much poorer for her loss.

Dr. L. MARTINDALE writes: For many years before I had the privilege of her friendship Dr. Sturge's name was familiar to me. Her courageous stand in the cause of temperance, her work in connexion with legislation dealing with many social problems, and the eminent position she took in the medical profession as president of the Medical Women's Federation make her stand out amongst those women leaders who had left behind them a great name and a great life's work. She was fearless and so generous herself that she took it for granted that everyone, rich or poor, would esteem it a privilege to help in any of her pet schemes. This confidence was rarely misplaced, and many unlucky, unsuccessful protégées of hers owe her much for the help she gave or procured to enable them to make a fresh start in life. Her generous, unselfish spirit showed itself most of all in the encouragement and help she gave to her own colleagues. She was always endeavouring to procure more openings for medical women, more honorary appointments on hospital staffs, and more resident appointments for the junior members of the profession. Professional jealousy was unknown to her, and this probably accounts for the real affection she received from men and women alike, whether they were her medical colleagues, or her patients, or the patients' friends. Her uprightness and wisdom in dealing with her fellows, her moral courage and fearlessness and untiring energy, are but some of the qualities which will remain in many of our memories as the characteristics which endeared Dr. Mary Sturge to those of us who counted her as our friend.

JOHN CLELAND, M.D., D.Sc., LL.D., F.R.S.,

Emeritus Professor of Anatomy, University of Glasgow.

THE death took place on March 5th, at Chatham, of Dr. John Cleland, Emeritus Professor of Anatomy in the University of Glasgow, in his 90th year. He had recently removed from Crewkerne, in Somersetshire, where he had spent the greater part of his leisure since his retirement from university duties in 1909. Owing to the long period of sixteen years that had elapsed since his retirement from the chair in Glasgow, he had become little more than a distinguished tradition to the present generation of students, although many men now in medical practice owe to his teaching and to the stimulus of his writings their grounding in medical science.

John Cleland was born at Perth on June 15th, 1835; his father was a medical practitioner in that city, but died at an early age. His widow, having removed to Edinburgh, set herself with devotion to the training and education of her two sons, and young Cleland received his early education in the High School, and afterwards entered the University in 1851 to study medicine. There he came under the influence of Professor John Goodsir, and from that time onwards study, teaching, and research in anatomy became the chief occupations of his life. He completed his medical curriculum at Edinburgh University at the age of 20, and spent a year in France and Germany, continuing his medical studies before he reached the age at which graduation was permissible. For several years after graduation he remained in Edinburgh as assistant in the anatomical department, and thereafter was associated as senior demonstrator with Professor Allen Thomson in Glasgow. In 1863 Dr. Cleland was appointed to the combined Chair of Anatomy and Physiology in Queen's College, Galway, a post which he held for fourteen years. At this period of his life he not only engaged in professorial duties, but practised also as surgeon to the hospital, and during this time many of his papers were written. While he was at Queen's College he published *Animal Physiology* (1874) and a *Directory of Dissection* (1876). At this time also he acted as joint editor of the seventh edition of *Quain's Anatomy*, which was brought out in 1867, and he was engaged in numerous minor writings which were subsequently published in 1881 as a volume of essays entitled *Evolution, Expression, and Sensation: Cell Life and Pathology*.

When Professor Allen Thomson retired from the Chair of Anatomy in Glasgow in 1877 he was succeeded by Dr. Cleland, who continued for over thirty years in uninterrupted tenure of the chair. During this period he was one of the most outstanding figures in medico-scientific circles in Scotland. He was a great personality in the University of Glasgow, and many students were deeply influenced in their modern biological conceptions by his teaching. Far from being only a man of science, his nature possessed a broad artistic side, and he was endowed with no mean gifts as a poet and painter. Some of his poems were published in a volume, *Scala Naturae*, in 1887. Early training under Professor Goodsir had given Cleland's mind a special bent in the direction of the problems of morphology, and he has left a large quantity of original work, partly of the nature of detailed research, and partly of philosophical criticism and speculation, bearing upon such problems. As an evolutionist he had a great regard for the work of Darwin. He adopted, however, an attitude of strong opposition to the materialism which he believed would be the inevitable outcome of entire acceptance of the theory of natural selection as the principal law of evolution. For many years among scientific men he stood almost alone as an expositor of the spiritualistic conception of life.

Throughout his tenure of the chair in Glasgow he devoted himself as assiduously to teaching as to research. An improved volume of *Memoirs and Memoranda in Anatomy* was issued by him in 1889 from the Anatomical Department of Glasgow University, and his textbook of *Human Anatomy*, published in association with Dr. Mackay in 1896, was highly popular with students and contained a record of many original observations which had been gathered by him during his long period of work as a professor.

In addition to the M.D. of Edinburgh, which he took in 1856, the Universities of St. Andrews, Edinburgh, and Glasgow each conferred upon him the honorary degree of LL.D., and the Queen's College University of Ireland that of D.Sc.

Personally he was a man of alert, quick, and sensitive temperament, with strong feeling and wide interests. Besides his interests in teaching, research, and artistic pursuits, he carried out a great deal of hard work in building up and enriching the splendid anatomical museum which he has left in the University of Glasgow, and which forms a valuable complement to the Hunterian Museum there. Among those who knew him he will be remembered as a man of deep learning, lofty ideals, and unwearied energy which preserved the spirit of youth throughout a long career.

A year after the death in 1887 of his mother, to whom he was deeply attached, he married the eldest daughter of the late Dr. John Hutton Balfour, Professor of Botany in the University of Edinburgh, and sister of Sir Isaac Bailey Balfour. She predeceased him in 1918. There was one son of the marriage. The funeral took place at Golders Green Crematorium on March 7th, and the ashes were interred in Crewkerne Cemetery, Somersetshire.

Dr. HUGH EDWARD WINGFIELD, who died on March 4th at his residence in Bedford Park, was educated at Haileybury, Caius College, and St. George's Hospital; he graduated M.B., B.Ch. in 1895, and proceeded M.D. in 1898. He was for some time demonstrator in physiology in Cambridge University, and took up the study of hypnosis. He also held the appointment of house-physician to the Royal Free Hospital. Later he practised in Winchester, and was appointed medical officer to Winchester College and consulting physician to the Royal Hants County Hospital. He was an ex-president of the Psycho-Medical Society and ex-president of the Medical Officers of Schools Association. He published two books—*An Introduction to the Study of Hypnotism* and *The Forms of Alcoholism and their Treatment*; he also contributed articles to the BRITISH MEDICAL JOURNAL and other periodicals on the subjects of psychology and alcoholism. He took a keen interest in chess, and was president of the Winchester Institute Chess Club, to which he presented a challenge cup and silver knight for which there is an annual competition. F. H. E. writes: Wingfield, when at Cambridge, had a wonderful power of hypnotizing fellow undergraduates, which he exerted sometimes for scientific, sometimes for amusing ends. His influence was often for good, as the following story shows. A student reading for the theological tripos was wasting his time in various harmless but unworthy ways. Wingfield hypnotized

him and, unknown to the sitter, told him that he must work two hours a day; this he did, though often not beginning until near midnight. He passed his examinations with credit. Many years later I asked Wingfield whether this student had done well. "Yes," was the reply, "I met him a year or two since in the Strand—a fat, prosperous, contented clergyman, up from the country, who said, 'I turned over a new leaf, didn't I?'" I said, "Did you tell him that you had been his good angel?" "No," said Wingfield with a laugh, "he still thinks the good influence came from above, not from a poor fellow mortal like myself."

The death took place on February 28th, in very sad and tragic circumstances, of Dr. JOHN WILLIAMSON SMITH, of Radcliffe, Lancashire. He had been found unconscious in his motor garage on the previous afternoon suffering from the effects of carbon monoxide poisoning, and in spite of the attention which he received from the hands of several of his medical colleagues, extending over a period of eight hours, he never regained consciousness. Dr. Smith, who was 45 years of age, received his medical education at Glasgow University, where he took the degree of M.B. in 1902 and M.D. in 1908. He was appointed as house-surgeon to the Bury Infirmary twenty-two years ago and afterwards house-surgeon to the Liverpool Eye and Ear Hospital. He held the latter post for about two years and then after a short period of general practice in Chapel-en-le-Frith he entered into partnership with Dr. H. W. B. Saville at Radcliffe. While at Liverpool he gained valuable experience in diseases of the eye and ear, and a few years ago opened rooms in Bury as an ophthalmologist, at the same time continuing his general practice at Radcliffe. He was honorary ophthalmic surgeon to the Bury Infirmary and oculist to the Bury education authorities. A keen and enthusiastic golfer, he was one of the most popular members of the Stand Golf Club, and at the time of his death was chairman of the handicap committee. He was a member of the British Medical Association, and in addition to acting as deputy representative for many years he was recently elected vice-chairman of the Bury Division. The funeral, which took place at Radcliffe on March 3rd, was largely attended, among those present being many brother practitioners from Radcliffe, Whitefield, and Bury.

Dr. JOHN LEWIS OWEN of Holyhead died on February 14th, aged 57, following an operation. He was a native of Ty-Croes, Anglesey, and was educated at Edinburgh, where he was demonstrator of anatomy at Surgeons' Hall; he took the diplomas of the English Conjoint Board in 1888. After acting as assistant to the late Dr. Hughes of Holyhead he commenced practice at Llangefri, subsequently moving to Holyhead, where he practised for twenty-five years. He was a member of the Panel Committee, and at one time represented the panel practitioners on the County Insurance Committee. He was medical officer and public vaccinator for the Holyhead district, and Admiralty surgeon and agent as well as surgeon to the Post Office and the Trinity Corporation. He was a justice of the peace for the county of Anglesey and a member of the North Carnarvon and Anglesey Division of the British Medical Association.

Dr. ALFRED ROBINSON died on February 17th, aged 64, at his residence in Rotherham, after an illness of about five weeks. He was born at Merthyr Tydvil in 1860, and received his medical education at St. Bartholomew's Hospital and Durham University. He obtained the diploma of L.S.A. in 1881 and M.R.C.S.Eng. in 1882; he graduated M.B.Durh. in 1883, and proceeded M.D. in 1887. He obtained the L.S.Sc. in 1888. After filling the post of clinical assistant to the Newcastle-upon-Tyne Infirmary he commenced general practice in Rotherham in 1884, in partnership with Dr. J. Hardwicke, whom he subsequently succeeded. From 1884 to 1906 he was medical officer to the Rotherham Workhouse. In 1892 he was appointed medical officer of health for the borough, and also medical officer to the Education Committee and to the Rotherham Fever Hospital. He took a very great interest in maternity and child welfare, and was responsible for the inauguration of an isolation hospital, small-pox hospital, a child welfare centre, and subsequently a maternity home, opened in December, 1920. He was an ex-president of the Sheffield Medico-Chirurgical Society and of the Yorkshire Branch of the Society of Medical Officers of Health. For many years he was connected with the Volunteer movement; during the war he performed home service, and retired with the rank of major in the R.A.M.C.(T.F.). Dr. Robinson contributed various articles on public health subjects to the BRITISH MEDICAL JOURNAL and other periodicals. He is survived by his widow. The funeral, on February 20th, was attended by a large number of representatives of the many interests with which Dr. Robinson was connected.

By the death of Dr. ELLISON CANSFIELD of Shipley on January 15th, the medical profession of Bradford lost one of its most devoted and conscientious members, and the Hall Lane district, where for many years he laboured unsparingly and with never-failing kindness among a large industrial population. Educated at the Bradford Grammar School and the University of Edinburgh, he took the degrees of M.B., Ch.B. with special distinction in medicine, and from there he went to the Maternity Hospital, Dublin. Entering general practice he was assistant to Dr. Pullan of Paddock, Huddersfield, and later to Dr. Robinson of Low Moor and Wyke. In 1911 he bought the practice at Windrush House, Hall Lane, Bradford, from the late Dr. Bladworth; the practice was originally carried on by the late Dr. Sam Lodge. There he worked steadily and conscientiously for many years, and built up one of the largest general practices in Bradford. His colleague, Dr. J. R. JOHN, writes:

In 1918 Dr. Cansfield joined the R.A.M.C. with a temporary commission and saw service as medical officer to the 7th battalion Lincolnshire Regiment. Within four months he was severely gassed, and after being in hospital for several months was finally invalided out of the service late in 1919. Failing to obtain adequate help under war conditions he struggled bravely to resume the heavy duties of his large practice. It was not until January, 1920, that my own demobilization permitted of my joining him as a partner, as had been provisionally arranged during our early days together in France. We carried on a very happy partnership—in spite of frequent breakdowns in his health—until July, 1924, when he was obliged to give up his share of the practice. Despite the devoted nursing of his wife his health gradually failed and he passed away just after his 39th birthday. A large circle of friends, patients, and fellow practitioners mourn the loss of one whose kindly nature, never-failing sympathy, and conscientious devotion to duty endeared him to all.

Dr. JOHN DOUGLAS PEARSON died on March 5th, at the age of 47. He was educated at Cheltenham College and Guy's Hospital, and obtained the diplomas M.R.C.S., L.R.C.P. in 1903. After filling the appointments of house-physician, anaesthetist, and visiting surgeon to the Chester General Infirmary, he began general practice in Cheltenham. He served in France during the war, in the R.A.M.C. For some years he was medical officer of No. 1 District of the Cheltenham Union. He leaves a widow and one daughter.

Dr. JOSEPH A. CLARKE of Dunoon died on February 10th. He was a native of Glasgow and received his education at the University there, graduating M.B., Ch.B. in 1897 and M.D. in 1900. He took the diploma in public health of the Conjoint Board in Scotland in 1911. He had practised in Dunoon for twenty-four years, having succeeded the late Dr. Gemmell. During the war he saw active service in Mesopotamia. Dr. Clarke, who was an enthusiastic Freemason, was a member of the Argyllshire Division of the British Medical Association.

Dr. PAUL MOSER, the Viennese pediatrist, and Professor E. BUMM, the Berlin gynaecologist, have recently died.

Medical News.

THE annual meeting of the Royal Medical Benevolent Fund was held on March 17th under the presidency of Sir Thomas Barlow. The treasurer (Sir Charters Symonds) said that the invested properties amounted now to more than £100,000. The amount voted in grants during 1924 was £5,616, and the grant department showed an adverse balance of £373, but this was apparent rather than real, because a proportion of the money, although voted, had not actually been paid out. The payments to annuitants amounted to £3,277. Certain considerable legacies were falling in, but it was the rule of the fund to invest all legacies for the benefit of annuitants. Dr. Newton Pitt, the honorary secretary, said that the committee had to record an increase of £1,000 in new subscriptions, a result largely attributable to the plan of appealing by means of letters written by vice-presidents or local secretaries in different areas. The ordinary subscription revenue, however, was down, and with fewer special gifts the general result was an increase in grant income of only £30 and in total income of only £130. Altogether 490 persons had been relieved during the year—343 by grants, which were not necessarily renewable, and 147 by annuities, which were in most cases renewed from year to year as a matter of course. The war emergency fund, which had been devoted chiefly to the education of children, would be absorbed by the early part of 1926, by which time most of the beneficiaries would have reached the age of 16. The Ladies' Guild continued its valuable help in the shape of personal contact with and gifts to the grantees. The British Medical Association had greatly assisted the fund by collecting subscriptions, and during the year it had forwarded £1,110, an increase of £200 on the amount collected in the previous year. Through the instrumentality of the Association also several cases requiring assistance had been brought before the fund. He referred with great regret to the death of Dr. G. E. Haslip, a member of the committee, who was instrumental in obtaining large grants for the fund from the Medical Insurance Agency. Changes made in the personnel of the committee included the election of two representatives of the British Medical Association, Dr. R. A. Bolam and Mr. Bishop Harman. The president remarked that the committee already had the advantage of the help of another representative of the Association, Dr. C. O. Hawthorne. Mr. Basil Hall, the President of the Association, was elected a vice-president. Thanks were expressed to the editors of the *British Medical Journal* and the *Lancet* for their readiness at all times to help the fund.

A MEETING of all members of the medical profession in practice within the hospital area will be held in the library of the Royal Devon and Exeter Hospital on Thursday, March 26th, at 3 p.m., to discuss the proposed contributory scheme. The question of the wage limit to be imposed is now under consideration, and the staff desires to ascertain the views of the local profession.

THE adjourned discussion on vitamin deficiency at the Royal Society of Medicine will be reopened on Monday next, March 23rd, at 5.30 p.m. The speeches made when the discussion was opened on February 16th were reported in our issue for February 21st (p. 358) and can be read in full in the March number of the society's *Proceedings*, and those who wish for a summary can obtain galley slips on application at the society's office, 1, Wimpole Street, W.1. The general discussion of these papers will be opened by Dr. William Hunter and Dr. Robert Hutchison.

THE Fellowship of Medicine announces that Mr. Ernest Clarke will lecture at No. 1, Wimpole Street, on March 30th at 5.30 p.m., on myopia, and on April 1st at the same hour, Dr. Robert Knox will give a lecture and lantern demonstration on the use of x rays in the diagnosis of lesions in the right upper quadrant of the abdomen. Members of the profession are cordially welcomed to these lectures whether members of the Fellowship or not. During the fortnight commencing April 20th an intensive course in all departments of hospital practice will be held at the Hampstead General Hospital. A course on diseases of children will also be held at the Queen's Hospital for Children on each day of the fortnight, and another on proctology at St. Mark's Hospital for Diseases of the Rectum. Early application for these courses is desirable. Copies of the syllabus of these courses may be obtained from the Secretary to the Fellowship of Medicine, No. 1, Wimpole Street, W.1.

THE annual meeting of the Society for the Study of Inebriety will be held at 11, Chandos Street, London, W.1, on Tuesday, April 21st, at 4 p.m. After the election of officers and the reception of the annual report of the council and the financial statement, Dr. Courtenay C. Weeks will open a discussion on alcohol in medical and surgical practice.

A MEETING of the Tuberculosis Society will be held at Cambridge, from April 2nd to 4th inclusive. Professor W. E. Dixon will lecture on the treatment of disease with heavy metals and bactericidal agents; Dr. Lynham on x rays in the diagnosis of pulmonary tuberculosis; Dr. R. C. Matson, of the American National Tuberculosis Association, will deal with artificial pneumothorax and the value of surgical procedures; Mr. H. Platt will discuss forms of arthritis simulating tuberculosis; and Dr. L. Cobbett will consider racial susceptibility and resistance. Sir Henry Gauvain will lecture on the present position of light treatment in surgical tuberculosis. A visit will be paid to the East Anglian Sanatoriums. A limited number of rooms will be available in Clare College, and it is hoped that cheap railway tickets will be obtainable. Further information may be obtained from the honorary secretary of the Tuberculosis Society, Dr. F. J. C. Blackmore, 138, Herbert Road, Plumstead, S.E.18.

THE North-Western Tuberculosis Society will hold a meeting at the Skin Hospital, Quay Street, Manchester, on Thursday, March 26th, at 3.30 p.m., when a demonstration (arranged by Dr. G. H. Lancashire) of tuberculous skin cases and methods of treatment, including light treatment, will be given.

THE quarterly meeting of the Society of Superintendents of Tuberculosis Institutions will be held at 122, Harley Street, on Monday, March 23rd, at 3 p.m. Dr. R. E. Woodhouse (Secretary of the National Tuberculosis Association of Canada) will give an address on tuberculosis work in Canada, and Dr. N. D. Bardswell will report the results of an experiment in settling tuberculous men on the land. Dr. A. J. Shinnie (Westminster) and Dr. Esther Carling will open a discussion on the weak points in the public treatment of tuberculosis. It is hoped that a general practitioner will speak from the standpoint of general practice.

THE third dinner meeting of the Hunterian Society of London will be held at Simpson's Restaurant, 77, Poultry, Cheapside, on Monday, March 30th, at 7.30 p.m. After dinner a discussion on the use and abuse of drugs will be opened by Professor W. E. Dixon and Dr. H. H. Dale.

AT a conversazione organized by the Chelsea Polytechnic on March 13th demonstrations were given of the educational work in progress. The subjects included elementary, applied, and advanced physics; bacteriology, including the study of immunity and food and water examination; physiology, with especial reference to physical efficiency tests and biochemistry; elementary, technical, and advanced chemistry; botany; zoology; and the manufacture of pharmaceutical preparations.

THE Wellcome Historical Medical Museum will be closed for cleaning and decoration from April 1st to 30th inclusive.

A FUND has been opened for providing some addition to the building or equipment of Scarborough Hospital as a memorial to the late Dr. F. W. A. Godfrey, whose death we announced in our issue of February 21st (p. 389). It is also proposed to place a tablet in St. Martin's Church. Dr. Godfrey was connected with the Scarborough Hospital for more than thirty years, and devoted to it a very great amount of interest and labour. Contributions amounting to more than £450 have already been received or promised. Cheques, payable to the "Godfrey Memorial Fund," may be sent to the honorary treasurer, Mr. S. F. Linton, the Town Hall, Scarborough.

DR. J. WRIGHT MASON, who has retired from the posts of medical officer of health for Hull after forty-four years' service and of medical officer of the Hull and Goole Port Sanitary Authority for thirty years, was entertained at dinner on March 9th by members of the Corporation Health Committee and of the Port Sanitary Authority, and presented with illuminated addresses by both bodies. During the evening speeches were delivered by the chairmen of the Corporation Health Committee and of the Port Sanitary Authority, as well as by the Lord Mayor, eulogizing Dr. Mason's work in the interests of public health.

THE Harrogate Corporation has prepared an attractive Easter programme. Copies may be had from the General Manager, Publicity Department, Royal Baths and Wells, Harrogate.

DR. L. OMBRÉDANNE has been elected president of the Société française d'Orthopédie in succession to the late Professor A. Broca.

THE discussion on post-graduate study in London arranged by the Fellowship of Medicine and Post-Graduate Medical Association, which took place on Wednesday last (March 18th), will be resumed at 1, Wimpole Street, W.1, on Wednesday, April 8th, at 6 p.m.

THE announcement is made as we go to press that Sir Humphry Rolleston, Bt., K.C.B., has been appointed to be Regius Professor of Physic in the University of Cambridge in succession to the late Sir Clifford Allbutt.

Letters, Notes, and Answers.

ORIGINAL ARTICLES and LETTERS *forwarded for publication are understood to be offered to the* BRITISH MEDICAL JOURNAL *alone unless the contrary be stated.* Authors desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Financial Secretary and Business Manager, 429, Strand, W.C.2, on receipt of proof.

ALL communications with reference to advertisements as well as orders for copies of the JOURNAL should be addressed to the Financial Secretary and Business Manager, 429, Strand, London, W.C.2. Attention to this request will avoid delay. Communications with reference to editorial business should be addressed to the Editor, BRITISH MEDICAL JOURNAL, 429, Strand, W.C.2.

Communications intended for the current issue should be posted so as to arrive by the first post on Monday or at latest be received not later than Tuesday morning.

THE telephone number of the BRITISH MEDICAL ASSOCIATION and BRITISH MEDICAL JOURNAL is Gerrard 2630 (Internal Exchange). The telegraphic addresses are:

EDITOR of the BRITISH MEDICAL JOURNAL, *Aitiology Westrand, London.*

FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate Westrand, London.*

MEDICAL SECRETARY, *Mediocera Westrand, London.*

The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin (telegrams: *Bacillus, Dublin*; telephone: 4737 Dublin), and of the Scottish Office, 6, Rutland Square, Edinburgh (telegrams: *Associate, Edinburgh*; telephone: 4361 Central).

QUERIES AND ANSWERS.

BEGGING LETTERS.

DR. HAROLD DOWNES (Martock, Somerset) writes: A person signing herself "Jean N. Atherton" writes to me asking for financial assistance, stating that her father was at St. Thomas's Hospital with me (which is not the case, for I am not a St. Thomas's man), but that "he failed to qualify." May I suggest that any practitioner who may feel inclined to respond should first communicate with the Charity Organization Society? This person writes from Devonshire, and asks for a loan of £3 till March 24th.

*** The address of the Charity Organization Society is Denison House, 296, Vauxhall Bridge Road, London, S.W.1.

ANTISCORBUTICS IN THE TROPICS.

"E. C. L." inquires as to the antiscorbutic substances which can best be used in the tropics.

*** The following standards for persons residing in a tropical country, such as West Africa, were drawn up by E. Marion Delf from careful analyses. Taking the antiscorbutic value of orange and lemon juice as 100, pineapple would be 44, pawpaw 40, vegetable marrow 33, and sweet potato 31. Fresh bananas eaten raw have a moderate value only. Tomatoes, both fresh and tinned, are also very useful. It must be noted, however, that the antiscorbutic value of all these fruits and vegetables will vary according to their freshness and method of storing. Germinating peas have a very high value; they should be allowed to simmer in a double steamer and the liquor should be used as well as the peas.

LETTERS, NOTES, ETC.

A DISCLAIMER.

DR. H. W. NOTT (Little Sutton, near Birkenhead) writes: May I ask you to find room for this letter disclaiming any association whatever on my part with the lay press notices which have appeared in connexion with the thyroid and manganese treatment?

A NEW MOSQUITO BREEDING PLACE.

DR. J. C. RYAN, D.T.M. (late M.O., West African Medical Staff), writes: In the issue of the BRITISH MEDICAL JOURNAL of March 7th (p. 488) a note appears on "A new mosquito breeding place"—that is, palm trees. In my book entitled *Health Preservation in West Africa*, published in 1914, reference is made on page 62 to this source of danger. Therefore it is hardly correct to call it new.

MATERNAL MORTALITY.

"A COUNTRY PRACTITIONER" writes: I cannot understand the statements now being made regarding maternal mortality. I have been in practice since 1892—twenty years in a seaside town and thirteen in a country district. During that time I have attended over 2,000 confinements without a single maternal death. I presume that my experience is not much different from that of the majority of general practitioners. Are conditions so very much worse in large towns, and is the percentage of deaths so very great, or has the whole matter been grossly exaggerated?

CANCER IN AFRICAN NATIVES.

DR. J. E. S. OLD, whose letter on cancer in African natives appeared in our issue of February 21st (p. 386), writes further to suggest that "cellular atavism" may be concerned in the occurrence of malignancy. He believes that help would be received from a tabulated comparison of the relative antiquity of the various races of mankind with the prevalence of malignant disease in them. The tendency to atavism may increase in inverse ratio to prepotency, which tends to produce resemblance to parents rather than to ancestors, and such composite racial blends as are found in the more civilized nations, being the least prepotent, may thus be more susceptible to malignancy if this condition contains atavistic elements. The racial tendency to reversion may be accentuated in an individual by his diet and mode of life, and become apparent. The constancy of this effect seems to him to indicate the existence of an inherited subservience to the "unconscious," and a pathological irritant, in combination with mental concentration, may awaken some latent unconscious nervous force and stimulate embryonic cells to activity. Prepotency may be a hyperdevelopment of some part of the "unconscious," and, if ill developed, may be unable to control or balance another part which is concerned with physiological activities. Dr. Old suggests that cancer hospitals might encourage a research on psycho-analytical lines, with a view to determining the presence or absence of such factors in malignant disease.

DAZZLING HEADLIGHTS.

DR. R. M. COURTAULD (Wakes Colne, Essex) writes: Many inventors are busily seeking an efficient motor car headlight free from dazzle, but I have not so far heard or read of any eye specialist seeking a method of making the eye dazzle-proof. Perhaps intimate knowledge of the eye would reveal the hopelessness of such a quest; *prima facie*, however, there seems here a promising path to pursue. Two methods suggest themselves to me as possibly worth a trial—namely, (1) the use by drivers of some kind of spectacles that would deprive bright light of its dazzle, while leaving illumination sufficient for safe driving; (2) the use of a myotic drug in the form of eye drops. The value of this method must depend upon the answers to three questions—namely, (*a*) Is there any myotic drug that can be constantly used without harm to the user? (*b*) Can a myotic drug render the eye dazzle-proof? (*c*) If the pupils of a driver's eyes were contracted by a myotic drug, could he see well enough to drive safely at night? Question (*a*) can be answered off-hand, doubtless, by any ophthalmologist or pharmacologist. The answers to questions (*b*) and (*c*) can easily be found by experiments.

INDEXES TO PERIODICALS.

THE Library Association issues a *Subject Index to Periodicals* (Issued by the Library Association: K.—Science and Technology. London: Grafton and Co., 1924.) drawn from 600 English and foreign periodicals in eight sections — namely, A, Theology and Philosophy; B — E, Historical, Political, and Economic Sciences; F, Education and Child Welfare; G, Fine Art and Archaeology; H, Music; I, Language and Literature (Part I, Classical, Oriental, and Primitive; Part II, Modern and Bibliography); K, Science and Technology. In the section now before us, for the year 1921, bearing as its date of publication December, 1924, an enclosed slip states that it includes some 6,000 entries, obtained from the examination of 290 periodicals. The price is £1 1s. net. As compared with this home production, medical literature and its allied sciences enjoy the luxury of foreign importations from the United States of the *Index Medicus* and the Cumulative Index of the *Journal of the American Medical Association*. In the course of 1922 these publications gave the references to the English and foreign literature of 1921 in an exhaustive fashion; these two publications cost libraries about 3 guineas. The *Subject Index* of the Library Association includes a few references to medical and scientific subjects, but only a very few as compared with the American publications mentioned.

"MEDICAMENTA RECENTIA."

THE second edition (revised and enlarged) of *Medicamenta Recentia*, published by Messrs. Allen and Hanbury (37, Lombard Street, London, E.C.3), is a neat and handy little book. It contains notes, arranged alphabetically, on "Allenburys" specialties, which are so numerous as almost to form a pharmacopoeia in themselves. The naming of many of these products involves such barbaric ingenuity as the word "muscabane" for a fly repellant; but it must be delightful to cure one's chapped hands with chrismaboron. The notes are followed by a therapeutic index, in which, under the name of each disease, the appropriate specialties are mentioned. There is a summary of the Dangerous Drugs Acts of 1920 and 1923; a description of the technique of injections, subcutaneous, intramuscular, intravenous, and intraspinal; a section on diet in diseases; and sundry tables of weights and measures.

VACANCIES.

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 36, 37, 38, 39, 42 and 43 of our advertisement columns, and advertisements as to partnerships, assistantships, and locumtenencies at pages 40 and 41.

A short summary of vacant posts notified in the advertisement columns appears in the *Supplement* at page *123*.